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THE ELEMENTARY SCHOOL JOURNAL

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Educational News and Editorial Comment

THE TRAGEDY OF THE CHICAGO SCHOOLS

On the morning of July 13 the citizens of Chicago were astounded by announcements in the public press to the effect that the Chicago Board of Education had adopted measures which struck deep and disastrously into the very vitals of the public-school system. Little less astounding than the measures themselves was the fact that they had been formulated in secret session by a special committee on economy without a public hearing and even without consultation with the superintendent of schools or other members of the educational staff. More than that, of the five members of this committee on economy, only one had been a member of the board for more than eight weeks.

The *Chicago Daily Tribune* summarized the action of the board as follows:

The major reductions . . . were as follows:

1. Abolition of the junior high school type of instruction with a return to the former program of eight years' schooling in the grades and a four-year high-school course. This will affect 48,000 pupils and 1,385 teachers in the junior high schools, who will be re-allocated to seventh and eighth grade and first year high school classes.

2. Crane Junior College discontinued, the building to be used for high-school purposes. Parental school for "incurables," where the cost per pupil has been more than \$960, closed. All continuation schools closed except the Washburne Apprentice School, with most of the positions abolished.

3. Kindergarten classes reduced by 50 per cent and attendance limited to one year for any pupil, with no child entering under the age of five years.

4. Teachers of physical education in the high schools to be reduced to 50 per cent of their present number and the position of coach in all junior and senior high schools abolished. (Physical-education teachers will coach the athletic teams.)

5. Positions of assistant director of music, supervisor of orchestral music, band leader, and orchestra leader in all the schools abolished. The purchase of all musical instruments discontinued.

6. Principals of the elementary schools to be decreased in number with no principal having less than two schools under his jurisdiction.

7. Manual training in the elementary schools and the teaching of printing in all the schools abolished. Teaching of household arts discontinued in the elementary schools. Teaching of physical education in elementary schools abolished along with the positions of special physical-education teachers.

8. An exhaustive inventory of all textbooks on hand at each of the schools and in the supply department before any further purchases of books.

9. Operation of all swimming pools in senior and junior high schools and elementary schools discontinued, and operation and maintenance of bathrooms discontinued except in districts where they are deemed essential by the board.

10. Position of dean in high schools abolished.

Other steps listed in the report included a reduction in the number of assistant superintendents from five to three and of district superintendents from ten to five, abolition of the vocational guidance bureau and substitute assignment center, and abolition of the positions of supervisors of high-school lunchrooms. The lunchroom supervisors will be replaced by managers devoting all their time to this work at salaries not to exceed \$150 a month.

The position of assistant director of compulsory education was swept away along with six other jobs in this department. Other positions were wiped out in the special schools section, special rooms division, art section, prevocational rooms, visual education, correction of defective speech and child study sections. The bureau of curriculum was abolished.

In announcing this drastic action, the board contended that it would result in a saving of approximately four million dollars and that the financial condition of the school system rendered such action necessary. The merits of the board's contention will be discussed in some detail later in this editorial.

The reaction of the public to the board's measures was immediate

and certain. The action of the board was emphatically and unqualifiedly condemned by professional educators both in and out of Chicago; citizens were aroused as they had not been aroused by any event in recent years; the Chicago press, with one exception, condemned the action of the board.

One of the first organizations to express itself as opposed to the board's action was the Conference of Administrative Officers of Institutions of Higher Education, which happened to be in session at the University of Chicago at the time. The following resolution was passed by this conference on the day following the announcement of the board's new economy program.

As a group of citizens deeply interested in the improvement of education in the United States, we have read with concern and dismay the action taken by the Board of Education of the city of Chicago in discontinuing a number of activities which have been developed in the educational system of this city during recent years. It is our belief that the financial difficulties under which the Chicago school system has been suffering in recent times are due chiefly to the antiquated and inadequate taxing system under which this city carries on its activities. The resources of this country are certainly adequate to provide its young people with the type of education which has been found to be demanded by a democratic civilization. All of the nations of the earth are finding that expansion of educational opportunity for the common people is the only safe and wholesome policy to be adopted in the light of modern conditions.

We deplore, therefore, the backward step taken by the Board of Education in reducing the seventh and eighth years of the school system to the level of elementary education. The United States has found in recent years that it is far more advantageous to introduce young people in the seventh and eighth years of their schooling to the opportunities of studying science and history and literature than to continue their training at the rudimentary level. The junior high school is a natural outgrowth of the improvements which have been made in recent years in the American educational system.

The development of courses in physical education and health is an expression of the growing conviction which has been accepted not only in schools but in all phases of public life that co-operative endeavor is more efficient and economical than individual effort. The health of municipal communities has been greatly promoted through attention in the schools to matters of hygiene and physical training.

The suspension of the Crane Junior College in a period when unemployment of young people is acute will throw a very heavy responsibility on the community to provide in some other fashion for useful employment of the time of adolescents in this city. While unemployment of young people of the adolescent age is

somewhat more acute at the present time than it has been in earlier years, the tendency of industry to reject young people from its opportunities of employment has been moving steadily in a direction which requires the public to provide junior-college opportunities on a much larger scale than they have ever been provided in the past.

The other eliminations of school opportunities which have been made by the school board could in a number of cases have been avoided if the school board had courageously faced the just demand that the costs of maintenance, including janitorial service and supplies be adjusted to the real needs of the schools.

Finally, it is our firm conviction that, when a group of citizens on the school board assumes to rearrange the educational facilities of the schools and to neglect entirely in so doing the expert advice of a competent superintendent and central educational staff, it is time for a serious consideration of the desirability of eliminating altogether from the control of this highly technical service incompetent and untrained representatives of the community who are obviously appointed to the board to serve political rather than educational purposes.

The Conference of Administrative Officers of Public and Private Schools, another educational conference with membership drawn from thirty-five states, at its session held the following week was equally emphatic in its condemnation of the board's action. The resolutions adopted by this conference read in part:

We regard this action of the Chicago Board of Education as a glaring example of subservience on the part of a representative public body to the selfish and undemocratic views of shortsighted financial interests whose demands for governmental economies are now being vigorously pressed without due regard for the requirements of essential public service and the future welfare of society. . . .

We condemn this proceeding and charge the Board of Education of this city with full responsibility for an unintelligent retrenchment of the school privileges of the children of Chicago.

In the meantime individuals prominent in the city and in the nation expressed disapproval of the board's action. Clarence Darrow, the well-known Chicago attorney, in addressing a meeting of citizens, placed upon certain financial interests of the city the responsibility for the attack on the schools. "Everybody knows who dictated these cuts in the educational system," he asserted. "No one has to be told it was the bankers—not the people. And now it is a question of which is the stronger." President Robert Maynard Hutchins of the University of Chicago charged the board with bad faith when he said: "The issue between the school board and the people is not economy. The issue is public education versus political

jobbery. Those who are fighting the school board are fighting for the schools. Those who are upholding the board are consciously or otherwise helping to maintain a political organization at the expense of the children of Chicago." George D. Strayer, of Teachers College, Columbia University, who had recently surveyed the schools of Chicago, said of the board's action: "The Chicago school slash was ordered in absolute ignorance of the fact that civilization depends upon proper instruction of youth in the vital courses which the school trustees' order eliminated." United States Commissioner of Education George F. Zook characterized the action of the board as follows:

It is an amazing return to the dark ages. This is the work of a school board that deliberately has refused to accept the advice of competent educators, and, in fact, has consulted no one capable of giving it advice.

The elimination of Crane Junior College leaves the children of Chicago's middle class without access to higher education.

This whole move upon the part of the Chicago school board is in directly the opposite direction from that being taken by intelligent educators everywhere.

Addressing a meeting of twenty-five thousand citizens assembled to protest the action of the board and to demand that it be rescinded, Charles H. Judd, head of the Department of Education of the University of Chicago, charged that the school board had misled the public with respect to the school deficit, that the board had permitted certain political and other interests to dictate its policy, and that the majority of the board had deliberately made an attack on the democratic principle in American education. Professor Judd said in part:

The threat of a ten-million-dollar deficit is made as a cover under which the enemies of the common people and of the public schools can operate . . .

The majority members of the board are mere puppets. The Board of Education has the power, under the law, to build up the schools of this city as great social institutions. The majority members of the board are, at the behest of their bosses, using their power, which should be turned to constructive ends, to rob the youth of Chicago of their rights in a democracy . . .

If the city of Chicago cannot ward off this blow which has been aimed at its future, then the disaster which threatens us will become a menace to the nation.

Forces unfriendly to the common people, forces which are banded together in secret to rob boys and girls of the opportunities of publicly supported secondary and higher education, have taken the occasion of Chicago's financial em-

barrassment to find out how far they can go without meeting effective community opposition.

If the spirit of democracy can be destroyed here, other cities and towns in all parts of the United States will be forced by reactionaries to reduce the school program to instruction in rudimentary subjects

A calm and dispassionate evaluation of the action of the Chicago Board of Education fully justifies the intense resentment which has swept over the city. In the first place, the Board of Education has divulged no evidence to support its claim that its program of retrenchment will reduce the cost of operating the schools during the remainder of the fiscal year by approximately four million dollars. Professor Nelson B. Henry, of the University of Chicago, has carefully examined the evidence on this point and has reached the following conclusion.

The promise of the Board of Education that the program adopted July 12 will reduce school expenses for the remainder of this fiscal year by approximately four million dollars is not backed up by any evidence that such a reduction in expenditure can be made. In fact, the Board of Education has not yet favored the public with any reasonable evidence that the program adopted will result in any significant economies at all. The conflicting statements given to the press at different times regarding the number of employees to be discharged seem to indicate that the members of the board adopted the retrenchment program and made the promise to reduce expenses by four million dollars without any definite plan for making this saving effective. The press reports of July 14 stated that more than fourteen hundred employees would be discharged. On July 18 a signed statement of the majority group on the board declared that displaced employees would be transferred to other positions as far as possible. It is apparent, therefore, that the promise to reduce school expenses by four million dollars between now and the end of the year was made to induce the public to accept the changes that the school board wants to make in the school program. Persons who are at all familiar with the conditions under which these schools are operating have known from the beginning that the claim of a reduction of four million dollars is preposterous. Others who have been investigating this claim since the last meeting of the board are convinced that the largest possible saving by the end of the year cannot approximate this figure. . . .

All told, and making allowance for any further possible reduction in expenses to be met by revenues of the educational fund, it is difficult to see how the program of the Board of Education could possibly promise a saving within this fiscal year of more than \$1,500,000. If due allowance is made for necessary expenditures from revenues of the building fund in carrying out the orders of the school board, the net reduction in expenditures within the present fiscal year cannot exceed one million dollars.

Another aspect of the board's policy cannot be overlooked. The board has consistently and persistently refused to seek professional advice and guidance. It even adopted its program without the advice of its legally constituted adviser, the superintendent of schools. In 1932 George D. Strayer and a staff of assistants made an exhaustive survey of the Chicago schools, for which the board paid \$100,000. The board has ignored entirely the recommendations of the survey report. Not a single measure in the board's program bears any semblance to the constructive recommendations of Dr. Strayer. Worse than that, most of the items in the board's program are diametrically opposed to the proposals of the Strayer report. True, the board has announced that it has sought professional advice. As yet, however, it has not divulged the source of that advice. It is indeed passing strange that an economy committee of five members, only one of whom had served on the board for more than eight weeks, should have felt entirely competent to initiate a program of such drastic character.

We come now to a consideration of the most sinister aspect of the board's program. Obviously, the board must have known that the measures it was initiating could not result in a saving of anything like the four million dollars which it claimed would be saved. What, then, were the purposes of the board? One cannot escape the conviction that the action of the board was consciously and purposely designed to thwart the maintenance of a democratic school system in the city of Chicago. This conviction is deepened by the announcement of the board that its policy is a permanent policy. If the board had announced that its program was a temporary, emergency measure, citizens might have regarded the action as a misguided but honest effort to meet a pressing situation. Such, however, has not been the position of the board. It insists that its policy is educationally sound. In this connection, an editorial in the *Chicago Daily News* under the caption "Where Are the Schools Heading?" is especially pertinent:

President James B. McCahey of the Board of Education is quoted as having said that the radical changes made in the educational program of the Chicago public-school system were designed to be permanent. In published interviews he has defended those changes as educationally sound. It seems, therefore, that instead of an emergency policy, regrettably drastic, but possibly necessary in

order that the schools may be rehabilitated financially and the public-school system saved from general disaster, Chicago faces a deliberate proposal, as a matter of educational policy approved by the Board of Education, to curtail and hold within too narrow limitations the opportunities for school available to the mass of the city's childhood and youth.

If necessity can be shown for the new and drastic economies as merely temporary measures to avert even more deplorable consequences, acquiescence is the rational attitude of the citizen, but that must not be interpreted as acquiescence in the establishment permanently of an educational program so debilitated that it evokes unsparing denunciation from educators of authority. Such denunciation has been voiced by George F. Zook, United States commissioner of education; President Hutchins of the University of Chicago; President Coffman of the University of Minnesota; Dr. Charles H. Judd, author of the chapter on education in the Hoover report on social trends, and other educational leaders. If the Chicago school board is charting a new course, not merely shortening sail in a storm, the public must demand to be informed where the board is heading and under whose advice.

Dr. Nelson Henry, of the University of Chicago, expert in school finance, declines, however, to recognize even the necessity for the revolutionizing methods of economy adopted by the board. He questions the soundness of trying to wipe out, by one year's slashing, a deficit accumulated in four years. He points out that by shortening the school term in 1934, as in 1933, a second four million dollars could be saved, and that further large savings are possible, as is indicated in the Strayer report, by economies in school-plant operation, a form of retrenchment which the board has never undertaken in any thorough way.

Such serious criticism of method puts the Board of Education on the defensive. If it has erred by creating a needless deficit in the education of Chicago children, ostensibly to avoid a deficit in dollars, it has wronged childhood and the community, and the wrong should be righted. But that it should contemplate seriously making a skim-milk educational program the permanent standard of mass opportunity for the children of Chicago seems almost inconceivable, and would be entirely so were it not rather clearly implied in official statements.

The tragedy of the Chicago schools is that they have fallen under the control of a board of education whose policies are dictated by interests hostile to the development and maintenance of a democratic school system for the youth of Chicago. It is incredible that a board of public officers charged with the high duty of providing adequate educational opportunities for the youth of the second largest municipality of the nation should permit certain financial and political interests to dictate measures deliberately designed to curtail educational opportunity. It is even more incredible that those re-

sponsible for these measures should be ignorant of the fact that the shifting pattern of social and economic life in this country is such as inexorably to demand an enriched rather than a restricted educational experience on the part of American youth. Of course, the citizens of Chicago will in time force the selection of a board of education which will again undertake the establishment of an adequate school system, but a school system is not a mere material thing—a matter of brick and mortar to be torn down or built up overnight. If the present board of education persists in carrying its program into execution, some future board will have to begin all over again the slow and laborious process of replacing what the present board is so wantonly destroying.

AN EXAMPLE OF AN INTELLIGENT APPRAISAL OF A PUBLIC-SCHOOL SYSTEM

The intelligent methods adopted by the school authorities of the city of Baltimore in dealing with the problems of education confronting that community stand out in sharp contrast to the autocratic, star-chamber methods of the Chicago Board of Education described in the preceding paragraphs. Some time ago the Board of School Commissioners of Baltimore appointed a citizens' advisory committee, composed of representative citizens of the city, to study in detail the entire school system. This committee was divided into eleven subcommittees, each subcommittee including in its membership those citizens who had special knowledge of the subject to be investigated. The subjects for special investigation by the subcommittees were as follows: art; home economics; music, industrial arts; vocational education; health and physical education; statistics, measurement, and research; business department; special education; colored schools; and elementary, junior high, and senior high schools. A committee was also appointed to review and evaluate the findings of the several subcommittees. The reviewing committee sums up its conclusions as follows:

It believes that the public-school affairs of the city are being well and intelligently administered and that there is no evidence of waste in any of the departments or activities of the school system.

It also believes that the administration and operation of the schools has been brought to a relatively high state of efficiency and good management. The re-

ports of the various subcommittees show the great progress which has been made in many respects since the Strayer survey in 1920.

Criticism has been sometimes made that an excessive amount is being spent in the form of salaries of supervisors, superintendents, and other officials who exercise supervision and direction over the individual teachers by whom the work of instruction is done. This committee finds however that this part of the system has already been cut too far in carrying out the reductions which have been made in the last two years. In a system as large, and containing as many different elements and branches, as the public-school system of Baltimore, it is absolutely essential for proper supervision and direction that there should be an adequate number of higher officials charged with the duty of co-ordinating the work of the different teachers, keeping in touch with the work of the individual teachers so as to determine upon the advisability of promotions and transfers, collecting and organizing the statistics which are needed in order that the administration may keep in touch with what is being accomplished, and performing those functions which in any large business would be discharged by similar officials. The thoroughness and care with which all data required by the citizens' committee and its subcommittees in their present investigation were prepared is itself an evidence of the efficiency of the administrative staff and its command of the details of the entire school system.

Another common idea is that much of the increase in the annual expense of the public schools is due to the teaching of special subjects, including especially those which are sometimes referred to as "frills." These special subjects were each made the province of one of the subcommittees, and the reports of these subcommittees agree in finding that the special subject covered by each of them is a highly advisable and necessary part of public-school education and that the cost thereof is but a very small part of the total amount expended for the maintenance and operation of the public-school system. They call attention also to the important fact that any very substantial part of this cost would not be saved or avoided by discontinuing these special subjects altogether, for the plain reason that one teacher can effectively instruct only a limited number of pupils at one time and that therefore, if these subjects were abolished, teachers would still be needed to instruct the pupils during the same time which is now devoted to the teaching of these special subjects.

The law makes it compulsory that all children shall attend school up to the age of fourteen, and, unless gainfully employed, until they are sixteen, and also provides that anyone under the age of twenty-one shall be entitled to instruction at the public schools. The law also requires that this instruction shall include teaching during a certain number of hours each week. It is obvious therefore that either the total discontinuance of, or the reduction of time given to, any of these special subjects would require that the pupils to whom they are now taught be instructed for an equal length of time by other teachers, and hence no considerable economy in expenditures would result from putting an end to any of these forms of instruction.

Neither have we found, as is sometimes supposed, that the instruction in those subjects which are usually regarded as the fundamental ones in a system of teaching has suffered to any extent by the time and attention given to the teaching of these special subjects. On the contrary we find that the addition of these subjects to the curriculums has not operated to prejudice the thoroughness of the teaching of those subjects which are commonly regarded as the more fundamental ones.

One of the items which has been heavily cut by the department for the current year is that of the cost of supplies and maintenance. This cut is possible largely because of the fact that the number of books, supplies, etc., on hand enabled such articles to be used for the current year, while spending less than usual for renewals. This however inevitably leads to a situation commonly called "deferred maintenance," by which the amount required for the same purposes in succeeding years is increased by the extent to which expenditures for that purpose have been skimmed or suspended during the previous year.

This brings us down to the question of what has been the cause of the large increase in the annual cost of the administration and maintenance of the public schools in Baltimore City during the last ten years or more. In 1920 the total appropriation by the city for the maintenance and operation of the schools was \$4,370,975, and in 1921, \$5,736,695. This had increased in 1931 to \$10,452,103, an amount which was cut in 1932 by \$826,000 and for 1933 by \$1,470,000, making the amount for the present year about what it was in 1927. This does not of course include the amount annually raised by taxes for debt service on that part of the city debt which was incurred for public-school buildings. While a large amount has been borrowed since 1920 for this purpose, it should be remembered what the condition of the public-school buildings was at the beginning of that period; and the total amount of existing city indebtedness which was incurred for schools is only about 14 per cent of the total funded debt of the city.

This increase in expenditures was due mainly to two factors, namely, to the increase in the rate of compensation to teachers which was made near the beginning of the period in question and to the steady increase in the number of pupils in the schools, and especially the increase in those in the higher grades, where the cost of education is greater.

For the last few years the increase in the number of students in the public schools has amounted to nearly three thousand a year. In the senior high schools the enrolment has almost doubled since 1921, and has trebled since that date in the junior high schools.

It is of course impossible, both under the existing law and under the principles on which public-school education is founded, to seek to accomplish any economy by limiting the number of pupils. Possibly some saving might be effected by requiring students who fall below a certain standard of attainment in the higher schools to be transferred to some other branch of instruction. On the whole, however, the increased expense due to the increasing number of pupils cannot be controlled.

Neither can the situation be met by reducing the number of teachers. There is a limit to the size of the class which any teacher can efficiently instruct. Ordinarily, the school administration has sought to hold to forty-four as such limit, and in the opinion of the committee this number is rather too high than too low. Increase in the number of students therefore necessarily requires a corresponding increase in the number of teachers by whom they are to be instructed.

If therefore any substantial reduction in the school appropriation has to be made, it will necessarily fall mainly upon salaries. Prior to the cut of 10 per cent which was made for the current year, the salaries of the teaching force and other officials and employees of the board were lower in Baltimore City than in any other city of equal or greater size, and were among the lowest of those in any city in this country of even half the size. It is upon salaries however that any enforced reduction in appropriations must mainly fall, and the committee believe that such salaries are already as low as they should be if the efficiency of the schools is to be maintained at anything like its present level.

And if a reduction should become necessary or inevitable owing to the impossibility of the city's raising adequate revenue to carry on the schools at the level to which they have been brought, then this committee suggests that any such action should be preceded by a general survey of all salaries and other expenditures in the different municipal departments, so that the school system will not be singled out for drastic reductions, when it is only one of the several departments of the city administration.

The work of the citizens' committee in Baltimore is of importance, not only to Baltimore, but to all the cities of the United States. Here is a concrete example of an intelligent method of dealing with the educational problems of a city. If representative citizens could be induced to canvass in detail the work of their school systems, no doubt they would be able in most instances to prevent the adoption of shortsighted policies based on a lack of understanding of the educational needs of the community.

A COMPARISON OF THE ACHIEVEMENTS OF PUPILS IN A "PROGRESSIVE" AND A "NON-PROGRESSIVE" SCHOOL.

The following statement is quoted from the *New York Sun*.

Children who attended the experimental "progressive" classes maintained until last year at Public School 41 in Greenwich Village did not do as well in the fundamental elementary-school subjects as did a comparable group of youngsters in an ordinary Manhattan school, it was announced by a committee of evaluators who had spent nearly a year examining the accomplishments of the children. The experimental classes did, however, excel in music.

Popularly referred to as the Little Red School House, the experimental school was maintained by the Board of Education in co-operation with the

Public Education Association. It was under the direct supervision of Miss Elisabeth Irwin who, in addition to the usual public-school faculty, had several instructors provided by the Public Education Association or through volunteer help. Other advantages enjoyed by the Little Red School House over the traditional city school included the use of a summer camp, smaller classes, and frequent excursions as a supplement to school work.

The purpose of the experiment was to see whether informal grading and a program of education through "activities" could successfully be used in a city school system in place of the traditional systematic graded instruction. After examining all the data, the evaluation committee has concluded that "nothing was finally proved or disproved by the experimental classes."

How this finding is reconciled with the showing of the test scores is not explained in the report. However, one of the three committee members explained to the *Sun* that what the committee meant was that due to limitations as to time and other elements at Public School 41, it would not be fair to pass final judgment.

For one thing, the Public School 41 experiment was to have run for four years before an evaluation in the fundamental school subjects was made. Actually, it ran only three and one-half years. Another drawback was the fact, conceded by the evaluation committee, that the original teaching staff at Public School 41 had not been trained in "progressive" methods.

In making their evaluation, members of the committee examined the children in the fundamental school subjects through standard tests. They tried also to compare the two groups in such intangibles as personality.

In the fundamental school subjects the scores attained by the children in several groups of achievement tests present their own testimony. These tests were given in the III B and the IV A grades, the latter being the highest grade in the Public School 41 experiment. The same tests were given to comparable groups of children at Public School 173, Manhattan, where the usual school methods had been followed and which was used as a "control" school for the experiment.

The scores [given in the accompanying table] in the achievement tests (for Grade IV A of each school) show that the schools were on about a level in reading and language usage but that in the other fundamental subjects Public School 41 lagged behind Public School 173. The figures refer to the average individual score and to the grade score in each school.

Both groups, it will be observed, were at or above the average score for their grades. This was to be expected, however, as the I.Q.'s of the two groups showed each to be above the average.

In the field of music appreciation the "progressive" methods of teaching were found to produce recognizable advantages. Both Miss Alice Coakley, special music teacher of the Board of Education, and Professor P. W. Dykema, of Teachers College, Columbia University, were enthusiastic in reporting on the achievements of the experimental children in this respect.

In health education, arts, crafts, and similar activities not subject to exact measurement the report of the evaluators contents itself with a description of the course followed at Public School 41 without, however, devoting much space to comment. In personality, where again no objective measure could be used, both [groups] were found to be about equal.

The evaluation committee consisted of Dr. Paul Klapper, dean of the City College School of Education, William Jansen, assistant director of research for the Board of Education, and Mrs. Ruth Schmuck, representing the Public Education Association.

	PUBLIC SCHOOL 173		PUBLIC SCHOOL 41	
	Average Score	Grade Score	Average Score	Grade Score
Metropolitan Achievement Tests, Intermediate Battery—Form A:				
Spelling.....	26.2	5.1	17.7	4.0
Reading.....	24.0	4.10	24.3	4.10
Vocabulary.....	31.3	6.4	28.6	5.1
Fundamentals.....	10.1	4.7	11.8	4.4
English.....	27.0	5.1	25.1	5.1
New Stanford Achievement Tests, Advanced Examination—Form V:				
Paragraph meaning.....	61.1	4.8	55.4	4.4
Word meaning.....	65.6	5.3	60.3	4.7
Language usage.....	60.3	6.0	61.7	4.0
Arithmetic:				
Reasoning.....	50.7	4.7	56.8	4.4
Computation.....	58.2	4.6	50.2	4.2
Other tests:				
Gray's Oral Reading Paragraphs.....	124.5	6.1	89.8	4.1
Personality.....	8.7	.	8.3	.

There should be more experimentation along the lines described in the preceding paragraphs. It is commonly maintained, of course, that in "progressive-education" methods there are inherent certain values which are not at present subject to precise quantitative measurement. Granted that this may be true, there still remain certain measurable things which any elementary school should accomplish. Whatever the intangible values of "progressive education" may be, there should be no uncertainty as to the effectiveness of "progressive" schools in the teaching of such matters as reading, spelling, and arithmetic.

THE ELIMINATION OF ONE GRADE IN THE GEORGE PEABODY
DEMONSTRATION SCHOOL

The authorities of George Peabody College for Teachers have announced a reorganization of their Demonstration School which effects a reduction of the period of elementary-school, high-school, and junior-college instruction from fourteen to thirteen years. The following quotation from the announcement of the college explains the reasons for taking this action.

Following the trend in American education, the extension of the demonstration unit will involve *fundamental reorganization to effect economy of time and expense in the educative process*. One phase of this program will be the elimination of the equivalent of one grade from the present elementary- and high-school organization, thus accomplishing the work of the present Demonstration School in eleven years and adding two years of junior-college work. The fact that over one-half of the state and local school systems of the South are on an eleven-grade basis, and have been for many years, furnishes reason for Peabody to maintain a demonstration unit on this basis. The experiences of the school systems of Dallas, San Antonio, Houston, Birmingham, Kansas City, Washington, D.C., and numerous others, have demonstrated that the eleven-grade organization is justifiable in the interest of educational and financial economy. The annual reports of the Southern Association of Colleges and Secondary Schools for the past thirteen years show conclusively that graduates of eleven-grade systems succeed as well in college as graduates of twelve-grade systems.

Through more effective and compact organization, the elimination of duplication and overlapping of work in courses, it is possible, without loss of thoroughness, to accomplish in thirteen years the work formerly requiring fourteen years. Thus students can be prepared to enter the junior year in college one year earlier.

A PERSONALITY RATING FORM FOR ELEMENTARY-SCHOOL PUPILS

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The function of the school is the guidance of children in the development of habits and attitudes leading to the socially adjusted personality. It therefore becomes the chief task and obligation of educators to determine what these attitudes and habits are and, having determined them, to manipulate the whole learning situation in such a way that their development shall be brought about. An analysis of the outcomes of education in terms of the essential adjustments which must be made in the process of developing the wholesome personality is the first step that should be taken toward the realization of the goal.

The term "personality" serves to include a number of varieties of traits other than the purely intellectual and to cover the activity of the pupil in the various situations of the school. In the literature pertaining to personality and character the extent to which various traits are generalized has received much attention. Many writers argue that traits, such as honesty and industry, are abstractions which do not exist as habits and that, since the traits vary from one situation to another, they cannot be measured nor rated. The studies concerned with the measurement of certain behavior tendencies have pointed to the general conclusion that the characteristics of a child's behavior are closely tied up with the situation which calls it forth and cannot, therefore, be made the basis of generalization about what would happen under other circumstances.

Closely related to this question of the generalization of traits of behavior is that of the reliabilities of ratings. A survey of the literature on ratings of personality or character traits shows that the reliabilities of the ratings have been variable and often very low, the average reliability coefficient being approximately .55. The following factors enter into the reliability of the ratings of two judges:

¹ Deceased since the preparation of this article.

the skill of the observer; his attitude toward, and interest in, the rating; the sampling of the situations; the number of observations made; and the nature of the blank used for the recording of the observations. Although reliabilities of ratings of personality traits have been found to be low, schools continue to use some type of rating sheet for records in order to give to parents and succeeding teachers information concerning the various traits of individual children.

For a number of years teachers in the University Elementary School of the University of Chicago wrote personality reports of the essay type for the pupils in their classes. These reports were prepared according to the plan of the persons who wrote them, each teacher selecting and emphasizing those phases of child behavior which he thought were significant.

With a view to ascertaining the value of this type of report in the study of the growth of children in social behavior, the writer read carefully the various teachers' reports for many pupils who had attended the University Elementary School for a period of years. As the reading progressed, it became apparent that different teachers stressed varied phases of behavior for the same pupils. Hence, the first problem attacked was to determine, from a careful analysis of more than a thousand reports for a group of children who had attended this school for a number of years, beginning with the kindergarten or Grade I, the frequency with which various traits were mentioned by the teachers. This problem was studied also with a view to finding out the differences in the reports submitted by the primary teachers in comparison with those written by the teachers of the intermediate grades and special subjects with respect to the frequency of mention of (1) separate traits and (2) positive or desirable, and negative or undesirable, phases of these traits. The reliability of the several reports written for individual pupils during the same year of schooling was also considered.

In the study of frequency of mention of various traits by all teachers combined, as well as by the two groups taken separately, the investigator read reports written by 23 teachers for 204 pupils who had been in attendance at the University Elementary School during four to six years, the majority of the group having attended

the school for six years. Of the twenty-three teachers, seven taught the primary grades and sixteen the intermediate grades and special subjects.

The question concerning the reliability of this form of report led to an intensive analysis of 504 personnel reports of the 72 pupils in the two fourth-grade sections for the year 1929-30. Reports which covered a period of from one to five years and which were written for individual pupils by four to ten teachers, with an average of seven teachers for each child, were studied with a view to finding the extent of agreement expressed by the various teachers for children during the same school year.

When many of the reports had been read, a list of personality traits or characteristics which seemed to include the many terms used in describing the children was formulated. These traits were then grouped into two general classifications, namely, positive or desirable traits and negative or undesirable traits. This classification of terms was made arbitrarily, since individual interpretations of words naming general traits vary. A survey of the literature of educational psychology reveals many conflicts between authorities concerning the meaning of these and similar terms in general use. The list of thirty-three traits used in the tabulation of characteristics, ranked from high to low in the order of their frequency of mention by all teachers combined, is found in Table I.

No significant variations (as much as three points) exist in the ranks given fourteen of the thirty-three traits listed by the primary-grade teachers and the teachers of intermediate grades and special subjects. These traits are as follows: interest, rate of thinking, independence, attention, self-control or poise, initiative or originality, rate of work, courtesy, happiness, attractiveness, clearness of thinking, honesty, seriousness of purpose, and promptness. For the following eight traits the variations in rank are slight - from three to five points, inclusive: adjustment to group; neatness; persistence; learning ability; quiet, noisy, or talkative behavior; assertiveness; tactfulness; and acceptance of criticism. Thus for twenty-two of the thirty-three traits there is little difference in the rank order of frequency of mention by the two groups of teachers.

A difference of from six to ten points in the rank order of fre-

quency of mention appears for the following six traits: sense of responsibility, industry, mental activity, health, aggressiveness, and consideration for others. The five traits for which there is a differ-

TABLE I
PERSONALITY TRAITS RANKED ACCORDING TO THEIR FREQUENCY
OF MENTION IN REPORTS ON PUPILS MADE
BY TWO GROUPS OF TEACHERS

Trait	All Teachers	Primary-Grade Teachers	Inter-mediate-Grade and Subject Teachers
Interest	1	3	1
Rate of thinking	2	4	2
Sense of responsibility	3	1	8
Adjustment to group	4	2	6
Industry	5	9	3
Independence	6.5	8	7
Mental activity	6.5	11	4
Accuracy	8	21	5
Neatness	9	12	9
Persistence	10.5	6	11
Health	10.5	5	12.5
Attention	12	14	12.5
Co-operation or obedience	13	7	20
Aggressiveness	14	10	17
Study habits	15.5	25	10
Learning ability	15.5	13	16
Self-control or poise	17.5	15	15
Quiet, noisy, or talkative behavior	17.5	17.5	14
Initiative or originality	19	19	18
Consideration for others	20	28.5	19
Assertiveness	21	17.5	21
Rate of work	22	23	22.5
Courtesy	23	24	22.5
Happiness	24	22	24
Muscular co-ordination	25	16	32
Attractiveness	26	27	25
Clearness of thinking	27	26	28
Background of information	28.5	20	33
Honesty	28.5	28.5	27
Tactfulness	30	30	26
Acceptance of criticism	31	33	29
Seriousness of purpose	32	31.5	30
Promptness	33	31.5	31

ence of more than ten points in rank order for the two groups of teachers are accuracy, co-operation or obedience, study habits, muscular co-ordination, and background of information. For eleven traits the rank order of the frequency of mention by the primary-

grade and intermediate-grade teachers varies from five to sixteen points.

It should be noted that the kindergarten teachers of this school have for a number of years used a "Chart for Recording Individual Interests and Progress" as a guide in making their reports of children. This chart contains the following traits, which are also included in the list formulated in this study: co-ordination (muscular control), health, self-control (emotional stability), initiative, sense of responsibility, co-operation (social progress in the development of primary social adaptations), obedience, and industry (application-conscientious and industrious). The inference might be drawn that the inclusion of these eight traits in the kindergarten chart would contribute slightly to an increase in the frequency of mention of the same traits in the reports of the primary-grade teachers in comparison with those of the intermediate-grade group, since the classification "primary grades" includes the kindergarten teacher and the six teachers of the first three grades. Moreover, the fact that the kindergarten teacher who wrote the reports for these children also constructed the chart to which reference has been made justifies the assumption that she considered these traits among those most significant in the development of the child.

It is apparent from an analysis of the variation in the rank order of these several traits that teachers of the primary grades mentioned the social traits more frequently than did the intermediate-grade teachers, while the teachers of the latter grades stressed the intellectual traits of children to a greater extent than did the primary-grade teachers.

A comparison which was made of the frequencies of mention of positive or desirable and negative or undesirable traits of children showed that all teachers taken together gave somewhat more frequent mention to the negative traits of children than to the positive traits. Primary teachers, however, more frequently mentioned the positive than the negative traits, whereas the intermediate-grade and special teachers more often mentioned the negative than the positive traits. Positive traits were mentioned for all the pupils 1,969 times, with a mean frequency of mention per teacher of 85.6. Negative traits were mentioned 2,056 times for the same pupils,

with a mean frequency of mention per teacher of 89.4. Thus, the negative traits were mentioned, on the average, by all teachers of the study 3.8 times more than were the positive traits. The primary-grade teachers mentioned positive traits an average of 95.86 times as contrasted with an average of 72.43 for negative traits, a difference of 23.43 in favor of positive traits. The intermediate-grade and special teachers mentioned positive traits an average of 81.13 times, while the average for the negative traits was 96.81, a difference of 15.68 in favor of the negative traits.

In his investigation of children's behavior¹ Wickman reported that an inclusive inventory of the entire range of conduct disorders recognized by parents and teachers could be obtained only by combining the judgments of the entire group of teachers, since the reports submitted by individuals revealed highly specialized responses. A perusal of the lists of personality traits prepared by the teachers in Wickman's study shows that they were limited almost entirely to the undesirable actions of children and omitted mention of desirable things which children fail to do. Few items describing child problems which are indicative of social and emotional adjustments but which are not directly disturbing to school routine were included in teachers' first reports. The list of significant items submitted by a group of psychiatrists, on the other hand, stressed such personal problems as shyness, sensitiveness, unsocialness, and unhappiness, rather than those traits most frequently enumerated by the teachers. Furthermore, the manner in which teachers had evaluated the problems of child behavior indicated the emphasis placed on intellectual acquisitions rather than on those other factors in the child's social adjustment which play a particularly important part in conduct. After they had their attention called to these personal problems of children, however, teachers were able to identify them in a large percentage of pupils for whom they had not previously reported these traits.

Parallel with the results of Wickman's study, the data of the present investigation indicate that intellectual traits occupy a place in the group receiving highest rank by all teachers. Problems which

¹ E. K. Wickman, *Children's Behavior and Teachers' Attitudes*. New York: Commonwealth Fund, 1928.

indicate emotional maladjustment or neurotic tendencies were not mentioned so frequently as were the forms of overt, actively troublesome behavior, possibly because the latter are more objectively observable.

The reports of children's behavior, when made by different teachers, each of whom mentioned those traits which he considered most significant in the life of the child, were not directly comparable, because (as Wickman also discovered) many teachers omitted certain items of child behavior which are symptomatic of educational, social, or emotional maladjustment.

An analysis of the data obtained from the second set of reports, which covered the period of from one to five years for the seventy-two pupils in the two sections of Grade IV, indicates that teachers more frequently expressed agreement on negative than on positive traits for these children. A summary of the data, however, reveals little agreement on all traits for individual pupils. An estimate of the reliability of reports of individual judgments is practically impossible for the reason that adequate interpretation cannot be made of data characterized by the frequent omission of significant traits of children. Although this type of report may give to the principal and the parent a general notion of a child's reactions to his several teachers and to the school situations, it is of little value in the study of growth in personality, since the same traits are seldom mentioned by any two teachers.

A consideration of the unreliability of the data obtained from these reports written in essay form led to the formulation of plans for a further investigation to proceed according to the method of directed observation. It was decided that the attention of all teachers should be directed to those phases of the child's behavior which appear to be significant in his social, emotional, and educational adjustment. Records of these observations would not only afford a more comprehensive picture of the child for the purpose of diagnosis than had the former reports but would also provide data for future studies of child development.

The first step in directing the observation of child behavior was the selection of the items to be observed. The critical examination and evaluation of the traits mentioned by teachers in the essay type

of personality reports was followed by a survey and an analysis of the literature on personality and character. A compilation was then made of traits and behavior items appearing in the various inventories, check lists, rating sheets, and scales for the measurement of personality and habits of conduct.

Members of the Department of Education were consulted with reference to the significance of certain behavior items in the adjustment of children. Teachers of the University Elementary School met to discuss whether they could observe and mark various phases of conduct. Certain items for the tentative check list were then selected arbitrarily.

After selections had been made, the next step was to determine the definition of the items. One of the most potent factors in the unreliability of ratings is ambiguity in meaning of the terms used to describe traits to be observed. While it may be possible to rate a general trait, Fursey¹ has shown that ratings of the analyzed components of a general "trait" become more reliable when the trait is broken into a number of specific factors. The inadequacy of the ethical trait has been demonstrated sufficiently to justify the conclusion that, if the ratings are to be reliable, definitions of items should be in terms of what a person does. The first step in the diagnosis of conduct is that of discovery; therefore, the initial emphasis should be on description rather than on interpretation or judgment.

To describe behavior, however, without at the same time interpreting it is difficult. Nevertheless, the description should precede the interpretation. If teachers can be directed in making precise and accurate observations of children's habits before making their interpretations, judgments of conduct may be made with less possibility of error. Judgments should therefore be based on careful observations of children's reactions to their environment in so far as these reactions are symptomatic of their deeper-lying needs. It is true also that one cannot rely merely on the behaviorists' method of diagnosing and interpreting behavior, but this method is valuable as a first step in the diagnosis. Each item included in the list was therefore defined in terms of child behavior in order that the process of

¹ Paul H. Fursey, "An Improved Rating Scale Technique," *Journal of Educational Psychology*, XVII (January, 1926), 45-48.

recording observations might not require teachers to make their own interpretations.

When the various items of behavior had been selected and defined, those which seemed to be somewhat related in the thinking of teachers were grouped together under an arbitrarily chosen general classification, such as "attentiveness." The grouping served only as a means of organizing the specific items and was not intended to affect the interpretation, since the teacher was directed not to the rating of the child in the general traits but rather to the marking of the specific items of behavior listed under these headings or classifications. All mental traits were grouped together, as were also the social and the emotional traits or characteristics.

Following the selection, definition, and grouping of the items to be observed, the question concerning the method of recording the observations arose. To know that a child has made a certain response to a situation is not sufficient; it is also essential to know how often this type of response has been made in his various activities. For this reason, the method chosen was to record the frequency of the occurrence of a given response over the period of observation. With the exception of a few items on which the child's behavior was to be compared with that of the average child of his age group, all markings were to be made in terms of the frequency of occurrence of the response.

When the method of recording the observations had been chosen, it was necessary to determine the number of divisions or class intervals to be assigned for the marking. Following a preliminary trial of a check list in which only three class intervals were used, it was decided that the revised sheet would include for experimental purposes the following five class intervals: "never," "rarely," "occasionally," "frequently," and "consistently." Each of these terms was arbitrarily defined on the introductory page of the report blank. For a very few items teachers were asked to mark in two intervals only, these being designated by the terms "yes" and "no," which were to be interpreted as meaning "as a rule" and "not as a rule," respectively. For two groups of items pertaining to muscular coordination and posture, marks were to be assigned in terms of the behavior of the average child of the age group.

Although any check list or rating sheet may serve as a guide to the observation of child behavior and offer an objective scheme of recording responses, it is nevertheless likely to conceal the unique structure of the pattern of an individual's behavior. For this reason, provision was made in this report for a written summary at the close. Any unusual behavior of the child could also be mentioned in this summary. While such information will of necessity be characterized by greater subjectivity than that which precedes it, the teacher's general impression of the child as he reacts to the school situation may be most helpful in the diagnosis of conduct.

A preliminary study of the reports submitted for all children in the University Elementary School during the year 1930-31 led to a revision of the first report blank prepared. Those responses which teachers found themselves unable to observe and those the meaning of which they found to be vague were either omitted or changed in the revision. The latest report blank, which is still in tentative form during the process of experimentation, follows.

THE UNIVERSITY OF CHICAGO

THE UNIVERSITY ELEMENTARY SCHOOL

REPORT OF PROGRESS IN PUPIL ADJUSTMENT 1932-33

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Name Grade
 Date of birth Teacher reporting
 Subject taught Section

In the following list only those items have been included which may be observed in the schoolroom and on the playground.

Directions to teachers.—Check only the items for which you believe you have sufficient evidence. State your criticism of any item at the bottom of the page.

In marking items under headings A to X . . . interpret terms as follows. "never," at no time or so seldom as to be negligible; "rarely," seldom, not often, infrequently; "occasionally," sometimes but not habitually, "frequently," often but not quite habitually; "consistently," almost invariably, habitually.

In marking items under Y and Z . . . consider the child's position in a normal group of children of his own age and interpret ratings as follows. "Low," among the poorest; "fairly low," between the poorest and the average, "average," near the middle of the group, "fairly high," between the average and the best; "high," among the best.

In items I-IV interpret the word *Yes*, "as a rule"; the word *No*, "not as a rule."

Pupil Shows --	First Semester*				
	Never	Rarely	Occa- sion- ally	Fre- quently	Con- sist- ently
A. Attentiveness:					
1. Attends to directions					
2. Disregards slight distractions					
3. Listens in an audience situation					
4. Adheres to the point of discussion					
B. Mental alertness:					
1. Is wide awake, interested					
2. Responds readily to questions					
3. Engages in class discussion					
C. Intellectual curiosity:					
1. Does voluntary reading for the purpose of gaining information					
2. Asks questions					
3. Examines new materials					
4. Performs experiments voluntarily					
D. Originality (expressed imagination):					
1. In composition					
2. In art					
3. In construction work					
4. In story-telling					
5. In music					
6. In dramatics					
7. In rhythms					
8. In games or play					
E. Foresight:					
1. Has materials ready for work					
F. Industry:					
1. Works on assigned task without wasting time					
2. Works on self-initiated tasks without wast- ing time					
G. Persistence:					
1. Completes tasks without having to be urged to do so					
H. Accuracy:					
1. Is accurate in work					
I. Carefulness:					
1. Prepares all work with care					
J. Neatness:					
1. Is neat in work					
2. Is neat in personal appearance					
K. Thrift:					
1. Is economical in use of materials					
L. Promptness:					
1. Is on time and ready to work					
2. Hands in work on time					
3. Keeps appointments					
4. Shifts readily from an activity					

* Five columns with the headings shown here under "First Semester" are also included on the rating sheet under a heading "Second Semester."

PUPIL SHOWS--	FIRST SEMESTER				
	Never	Rarely	Occa- sion- ally	Fre- quently	Con- sist- ently
M. Orderliness:					
1. Keeps desk and locker in order.					
2. Puts materials in proper place					
3. Hangs up clothing.					
4. Helps to keep room neat.					
N. Initiative (action independent of the group):					
1. Sees thing to be done and does it.					
2. Does more than minimum amount of work.					
3. Brings in illustrative materials					
O. Independence:					
1. Gets necessary materials for himself.					
2. Dresses for special periods unaided.					
3. Cares for bodily needs					
4. Uses familiar sources					
5. Corrects his own work as far as he can.					
P. Leadership:					
1. Is a leader of the group.					
2. Carries through a plan for the group					
Q. Self-assertion:					
1. Stands up for recognition of his rights.					
2. Shows readiness to recite.					
3. States his opinion with conviction					
4. Is free from evident timidity or shyness.					
R. Disposition to face reality:					
1. Faces the issue.					
2. Accepts frustration constructively.					
3. Accepts just criticism willingly					
S. Response to authority:					
1. Obeys rules made by group or others with- out question or delay.					
T. Courtesy and consideration for others.					
1. Knows and uses social conventions					
2. Refrains from disturbing others					
3. Waits his turn					
U. Co-operation:					
1. Enters into group activities voluntarily.					
2. Does his share in group activities					
3. Plays and works with others harmoniously					
4. Assumes his part in maintaining order					
V. Sociability:					
1. Is quick to make friendly approaches					
2. Is accepted by the general group					
3. Associates with children of both sexes without appearing to be self-conscious					
W. Respect for property.					
1. Is careful of his own property					
2. Is careful of school property					
3. Refrains from taking others' property (re- turns articles found or borrowed).					

Pupil Shows -		FIRST SEMESTER				
		Seldom	Rarely	Occasionally	Frequently	Consistently
X. Emotional balance:						
1. Appears calm.						
2. Exhibits poise						
3. Is stimulated by competition						
4. Appears good natured or happy						
5. Refrains from making excuses for himself						
If not, what excuses does he offer?						
6. Shows any of tendencies listed below:						
a) Exhibiting temper tantrums						
b) Fighting in line						
c) Crying in baffling situations						
d) Talking excessively						
e) Being depressed						
f) Being fearful						
If so, of what?						
g) Whining or fretting						
If so, when?						
h) Teasing or bullying						
When and whom?						
i) Disturbing others						
If so, how?						
j) Arguing with others						
k) Quarreling with others						
l) Being over-stimulated by competition						
m) Playing alone						
7. Shows any of so-called "nervous" habits listed below:						
a) Sucking thumbs.						
b) Biting nails.						
c) Tics (twitching of face, eyes, etc.).						
d) Enuresis						
e) Nose-picking.						
f) Lip-biting						
g) Head-scratching.						
h) Fainting spells.						
i) Fleeting attention.						
		Low	Fairly Low	Average	Fairly High	High
Y. Muscular co-ordination:						
1. In drawing						
2. In writing.						
3. In control of body movements						
4. In construction work.						
Z. Posture:						
1. In standing						
2. In walking.						
3. In sitting.						

PUPIL SAYS—	As a Rule	
	Yes	No
I. Speech difficulties:		
1. Has speech defect (lisp, stuttering, stammering, etc.)		
If so, describe it		
2. Faults in speech (inaccurate enunciation, faulty articulation, etc.)		
Describe		
II. Physical defects.		
Name below any that are evident		
III. Has this child proved to be a behavior problem?		
If so, tell in what respect, give your method of treatment, and the success or improvement noted:		
First semester		
Second semester		
	Left	Right
IV. Handedness (if ambidextrous, check both columns):		
1. In writing		
2. In other activities		
	Yes	No
3. Have attempts been made to change the child from the use of the left hand to that of the right?		
If so, when, by whom, and with what success?		
Have any difficulties of adjustment been noted?		
V. Additional information, general estimate of pupil's ability, speed of learning, attitude, achievement, or improvement thus far:		
First semester		
Second semester		

BOARDS OF EDUCATION HAVE A PLACE

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Complete centralization of responsibility for municipal affairs in the hands of the mayor or one central body followed an evolutionary process that had its beginning in complete decentralization of the municipal services. Studies of these changes led students of political science to advocate the theory that all the tax-supported local services in cities could be administered more efficiently, effectively, and economically by doing away with all local lay boards of control. In many treatises on political science, boards of education are included among the so-called "antiquated left-overs" of an earlier period in governmental evolution. For a number of years the New York State Conference of Mayors and Other Municipal Officials has advocated legislation that would abolish city school boards and make the superintendent of schools in each city directly responsible to the mayor's office.

It is not necessary to present here the arguments that have led educators in the past to take a definite stand against the principle advocated by those who would abolish the boards of education or against those who hold to the theory that the schools should be made a branch of city government. In one or two cities in the United States there are no school boards, and these situations have contributed nothing, either in the way of efficiency or in the matter of economy, to show that school men have erred in their contention that the farther removed the school control can be from the city management, the safer will be local public education.

In a recent article, "The Place of the Board of Education," this issue is raised for the first time by an outstanding educator. This statement presents no new evidence or facts, nor is a new theory expounded, the author concluding that "the appointment of the expert superintendent may safely be left to the mayor" and, in

¹ Charles H. Judd, "The Place of the Board of Education," *Elementary School Journal*, XXXIII (March, 1933), 501.

another place, that "we could very advantageously dispense with boards of education."¹ Although the first statement refers specifically to Chicago, the reader is led to believe that the author thinks the plan should be applied to all cities.

It is believed that a summary of the published expressions of school executives on this problem would bring forth an overwhelming "no" to the proposal. If the educational literature in the field supplies any evidence, then there has been little change in sentiment among those responsible for public schools since Frasier's study made in 1921,² in which it was found that school officials cherished the good fortune which completely freed them from municipal control. There are those who would hold that school men are motivated by self-interest when they insist that the schools be separated as completely as possible from city jurisdiction. It may also be held that educators are poor judges of the advantages which may accrue when the schools are made merely another department of the city government. It seems hardly necessary to state that the experience in the whole country for over a half-century accumulatively indicates that any control of schools by mayors or other city officials tends to be detrimental to education and not necessarily conducive to greater economy.³

Since public opinion has had no influence on the mayors when school-board members were to be chosen, are there any grounds on which one may assume that mayors of the type elected in Chicago would be swayed by public opinion to select qualified superintendents? Would any mayor of recent years in Chicago have missed the political advantage which would have been gained through the direct appointment of the superintendent?

In the plan proposed would the business manager of the schools likewise be selected by the mayor? Would the school attorney be continued or would the city attorney frame the school law for legis-

¹ "Points of View Presented," *The Citizens Conference on the Crisis in Education: Report of the Agenda Committee*, p. 22. Washington: American Council on Education, 1933.

² George W. Frasier, *The Control of City School Government*. Milwaukee, Wisconsin: Bruce Publishing Co., 1922.

³ "The City Manager Plan and School Administration," Editorial in *American School Board Journal*, LXIII (September, 1926), 68.

lative action and then interpret the law when difficulties arose between the superintendent and the mayor? Conditions are almost intolerable in Chicago schools as things now stand, with the school attorney an independent executive author of school law and interpreter of school law. In the plan proposed where would the economies be effected? Who would have courage to root out the "racket" in the operation, maintenance, and construction of school buildings? What chance would an appointed superintendent have in Chicago in opposition to the mayor and his henchmen? Who would guarantee that the educational affairs would not follow a path similar to that on which the business affairs of the city have been sliding for these many years? Could it not be possible that the school board in Chicago, through the few honorable men and women holding office, has helped the superintendent and his associates in protecting the schools from complete political control? Could it not be possible that, if recent mayors had had the appointive power, the public schools would have been more shamefully mismanaged than they have been under the present system?

A number of years ago students of educational administration believed that in large cities the schools would best be served by allowing the mayors to select the school-board members. It was then held that public opinion would force the mayors to choose outstanding men and women for this most important public duty. The evidence on record is disappointing. If mayors are unable to select with discretion and discrimination those who are to serve as school-board members, how can one expect them to choose well when the superintendent is to be employed?

Students of municipal government who advocate the centralized control of schools and other tax-supported services have been reluctant to admit that public education is a distinctive state function performed locally by a method entirely different from the method in which other public services are rendered. It seems quite contradictory to hold, on the one hand, that education is a state function and to be willing to admit, on the other, that the only solution of school problems is to intrust the schools to the local political winds which elect the mayor.

One must not overlook the fact that state responsibility for public

education has evolved rather slowly. Indeed, the tardy recognition on the part of the states of their responsibilities for public education, as expressed in their constitutions, made it possible for progressive and rapidly growing cities to secure special charters with broad powers, including specified authority over the local schools. That these delegations of authority were mistakes was realized too late, and now the mistakes are corrected with great difficulty. These mistakes, when made in certain states, were soon copied by other states, since there did not exist in earlier days a leadership fully appreciating the ultimate consequences of the special city charters and the evils that were to result from giving city officials responsibility over the schools.

The issues involved in the administration of schools in large cities are most baffling indeed. It is only a defeatist philosophy which would warrant the theory that steps in the direction of a solution of the problem would be made by pushing the schools more deeply into the municipal mess. It is difficult to understand how greater economy could be fostered by having no school board and by having the mayor or city manager select the superintendent. If politics are bad in the city and if the city as a whole is extravagantly managed, how could a professionally qualified superintendent resist the city-hall pressure for patronage or the pressures that would lead to anything but economy? If a city manager interested in economy brings pressure on the appointed superintendent, how is the latter to resist although as a professional leader he recognizes the consequences of the proposal on the schools? No doubt the answer is, "Appeal to the people." Where would such an appeal be accepted today, and what chance would the superintendent have? Conditions are bad enough with the school board standing as a buffer between the public and the superintendent, between the city hall and the professional executive in charge of the schools. It may be contended that laws protecting the superintendent from such pressures could be framed. Why are we unable to secure such legislation under the present order?

If there is any hope of solving the school problem in large cities and if public education is to continue as a state function, then the way out would be in a direction that will more and more completely free the public schools from city-government control. We have yet

to try in these large cities the plan of electing the school board on a date when the atmosphere is free from national, state, and local civil issues. This possibility has been discussed again and again and fails only if democracy is a failure.

There is a place for the legislative board in the management of any enterprise the operation of which requires highly qualified professional leadership and direction. This fact is recognized in private enterprises of all kinds— even in the management of universities. It would appear, at least in the present stage of democratic society, to be poor judgment to assume that even a private enterprise can be operated effectively by having the chief executive directly responsible to the stockholders. The board serves as a balance wheel, as a buffer, and as a non-professional body to test out the practicality of the program advocated by the professional executive and his staff. Under this plan of management, one will grant, many failures and successes have been recorded. Frequently the failures have been due to the errors, incompetence, and unscrupulousness of the executive; often the failures must be charged against the board of directors. As the relation between the board and the executive becomes more clearly defined, as the training and the competence of the executive reach higher levels, and as the ethical standards of management improve, serious blunders become less frequent and the fundamental principles of organization have a chance to prove their worth.

In public education the functions of the school board have been slowly evolving. Rapid changes have been made in recent years since superintendents have become better qualified to perform the executive tasks of their office. For obvious reasons, the proper relation between the board and the executive has not evolved as rapidly in public enterprises as in private enterprises. Yet some persons hold that, if it were possible to modify the school law at the present time, our knowledge is adequate to set up a legal organization in which the school board and the executive could work together in such a way as to correct most of the limitations of the present organization.

It is a mistake to assume that a superintendent of schools directly responsible to the people or to the mayor could happily and freely perform his tasks. Superintendents err, and frequently school boards have acted as buffers to protect the schools from the errors made or

to protect the superintendent from the consequences of his early blunders, which he may have made through lack of experience and professional competence. It is a great help for the superintendent to have a lay group of citizens, crude as the body may be, to test out the educational program devised by his associates and approved by him before he is ready to launch it in the community.

To hold that the mayor should select the superintendent of schools would be a long step in establishing the principle that governors should select the state commissioners of education, state superintendents of schools, the presidents of state universities, and the heads of other state educational and social institutions. In some states the governor chooses the superintendent of public instruction, but these states have tried again and again to place a state board of education between the governor and the state's educational leader.¹

It will be agreed that governmental organization cannot remain static and that modifications in the plans of managing schools, as well as in the operation of civil and state affairs, must be such as will produce in the future public services more efficient and consistent with funds available. If schools are "intrinsically state institutions" and if "education in its very nature is not a municipal function,"² it is difficult to understand how an improved organization and administration of schools can be contemplated by placing the schools more completely under the domination of the city government. How can one expect to formulate and pass legislation that would, on the one hand, give the mayor power of selection and, on the other, assure to the superintendent complete responsibility for the administration of the schools? How can law free the superintendent of schools from the person who appoints him to office or from the municipal body that has the final approval of the budget? There is now sufficient precedent in the history of city government and schools to indicate the undesirable outcomes of a situation in which the superintendent of schools is directly responsible to the mayor.

¹ During recent legislative sessions it has been fortunate indeed that the governors in some states have not had the power to appoint the state commissioners of education or the presidents of the state educational institutions.

² "Should Boards of Education Be Abolished?" Editorial in *Elementary School Journal*, XXXIII (March, 1933), 482

TESTING READING

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Many tests in school subjects are designed to suit the needs of the supervising officer. He wishes to know what results his organization is securing, and he therefore favors a test which describes achievement in terms of grades. Other tests are designed to suit the purposes of the psychologist. His desire is to dissect the skills and the kinds of knowledge taught in the schools, and he develops tests to serve his purpose. True, he does much of his work in the laboratory, but he then evolves from his laboratory work tests for use in the schoolroom. Many tests made from these two points of view are now available, but somehow these tests have not revolutionized school work as it was imagined they would. The general test devised for the supervisor tends to allow teachers of high-scoring classes to become complacent, while teachers of low-scoring classes are driven to do still more strenuously yet blindly exactly the kind of thing that they have been doing. Many of the carefully devised tests of the psychologist seem to the teacher rather "impractical"; that is, they do not seem to fit into the possibilities of classroom work as it must be carried on in the average school.

If testing is to function in the schools as it should, tests constructed rather definitely from the teacher's point of view are needed. These tests will differ from many of the present tests in a number of respects. For one thing, they will differ in price. Present tests are put out in forms which are too expensive, pay royalties which are too high, and are distributed by methods which are too costly to make it possible for teachers to use tests freely. The teachers are forced to produce test material of their own by means of the mimeograph or the hectograph. The cost of tests made for teachers will have to be almost as low as the cost of these home-made tests. Tests will have to be produced in such quantity and distributed in such volume that they can be priced at not much more than the cost of the paper on which they are printed (and it can be very cheap paper)

Other characteristics of tests made for teachers are more important than cost. The chief of these are indicated in the statement that a test must test (1) *some specific thing* (2) *which can be taught and* (3) *which should be taught* (4) *in a particular grade*. That is, the test made for the teacher must show the child's standing in some particular knowledge or skill; the teacher must be able to teach that particular knowledge or skill; and the particular knowledge or skill must be a legitimate part of the educational program at a certain grade level. In contrast, (1) many present tests measure indefinite combinations of knowledges or skills. (2) Some test abilities that cannot be taught. These tests are nevertheless useful at times, as in the case of intelligence tests, when the abilities aid or hinder learning. (3) Many present tests measure skills which are not proper teaching objectives. (4) Finally, present tests usually cover a wide range of grades, and the result is that the individual teacher can secure little help from the small section of such a test really suited to her own group of children.

Let us now apply these principles to the teaching of reading. Is the teacher of reading actually aided in her work by the tests of reading now available? Are the present tests teacher-tests according to the requirements just laid down? To answer these questions, let us ascertain the specific things which the teacher of reading can and ought to teach in certain grades and then determine whether tests are available which measure exactly those things in a way that will help teaching. One by one, specific purposes of the teacher of reading will be discussed.

1. *The teacher can teach meanings of words.* From the start the child must know the meanings of the words before he can read them. In Grade I progress is so slow that the teacher can teach the meanings of any unfamiliar words encountered. Likewise, the primary reading books are so carefully made that words of unfamiliar meanings do not often appear. As soon as independent reading is possible, the vocabulary broadens immensely. The child takes up books from the reading table. He attempts to read the newspaper. He tries to read magazines. At once the child with a small vocabulary is handicapped. He pronounces, but there is no meaning. He does not find any interest in the reading. He develops an antagonism toward the meaningless process.

Meanings of words can be taught and are taught constantly in school. Which words need teaching, and which children need to be taught these words? Here is the field of the *graded vocabulary test*. At present there is no adequate test in this field for the elementary school. Even in the case of a test giving a hundred items, the children of any particular grade will find the greater part of the test entirely too easy or entirely too difficult for them. Therefore, existing tests give only slight samplings of the vocabulary at any particular grade level, and there is entirely too much likelihood that the scores of individual children will be governed by chance. The need for efficient vocabulary-testing is at present filled by the speller when the teacher is careful to determine whether the meanings of the spelling words are familiar to the children. Perhaps vocabulary tests could be based on the speller, and in each grade the children's knowledge of the vocabulary for that grade could be tested. The teacher would then know just what vocabulary to teach. Still more direct help to the teaching of reading would result if tests were constructed which would test the children's knowledge of the difficult words contained in the reading books used by the children. Such tests could be based on textbooks in reading, arithmetic, geography, or any other subject. At any rate, it is clear that vocabulary is needed for reading, that vocabulary can be taught, and that the teacher needs a vocabulary test prepared with her special purposes in mind.

2. *The teacher can teach sight words.* Reading must begin with the learning of sight words. Do the children learn these words? The teacher should know whether they do or not because a child cannot go on to a new set of words if the old words are still new to him when he meets them. In fact, progress into the first reader should never be permitted until the basic sight words of the primer are known. Otherwise, there will not be progress but only greater and greater confusion and discouragement. Many teachers assume that they can tell how thoroughly the children know the sight words, but they fail to realize how greatly children can deceive them by memorizing stories and by guessing from the context. A test, however, cannot be deceived.

After Grade I the teaching of sight words is not emphasized because the larger number of words makes it impossible that they be

learned by this method and because the similarity of the words makes it difficult for them to be distinguished by typical sight methods. Therefore, the need for a *test of sight words* occurs primarily in Grade I. Several such tests now exist, but they are not adapted to use with any particular group of children. Each group of children studies a particular book with its own vocabulary. The group should, then, be tested on the vocabulary studied, but any standard test fulfils this requirement only in part because only a small group of words given in the test occur in the primer studied. Therefore, the local school must make its own test of sight words based on its own primer unless the publishers will bring out such tests for individual books. The teacher must have a test that fits her work. No other kind will help her greatly.

3. *The teacher can teach the sounding-out of new words.* Before independent reading is possible, the children must have a means of sounding out words that cannot be recognized by sight. A teacher can teach children how to sound new words. She therefore needs a test to indicate how a child tries to sound new words and how well he succeeds in doing so. For this purpose the teacher now has word-pronunciation tests but none that entirely suits her needs. Most of the present tests are general word-pronunciation tests which include words of all kinds containing all combinations of letters. In using such a test, the teacher must note the methods of attack used on the different kinds of words, record the kinds of mistakes made, and then analyze the results. By such analysis she finds that the tests contain too many words of some kinds, too few of other kinds, and no words at all requiring certain methods of attack. If a word-pronouncing test were made from the teacher's point of view, the test would try the child out systematically on the various methods of attack and the various combinations of letters contained in words, thereby giving definite diagnostic results.¹ That is, the test would

¹ The Iota Word Test by Marion Monroe approximates these requirements, but the kinds of words used are so selected and so arranged as to make the meaning of the results uncertain. See Marion Monroe, *Children Who Cannot Read*. Chicago: University of Chicago Press, 1932. The Phonetic Abilities Test in Gates's *Diagnostic Tests in Reading* is diagnostic but uses word parts or artificial syllables and thus tests something which is not actually taught in school. See Arthur I. Gates, *The Improvement of Reading*. New York: Macmillan Co., 1927.

clearly indicate to the teacher whether the child knows that a final silent *e* makes the preceding vowel long, that an *u* followed by *r* has a particular sound, and so on. If the test told such definite facts, the teacher would know the exact kind of teaching which each child needed. Definite teaching brings results, and the test must help the teacher in such teaching. Word-pronouncing tests made distinctly from the teaching point of view are still lacking. Meantime, the teacher must do the best she can with the word-pronouncing tests now available.

4. *The teacher can teach fluent reading for story comprehension.* The teacher wishes to know whether the child is prepared to do recreational reading outside of school and for what kind of reading he is prepared. The reading matter used for this purpose will not be difficult, since the child will choose easy material, but such reading requires fluent recognition of words because fast reading is necessary to prevent the flagging of interest. Is the child able to read with fluent recognition? If not, the teacher can encourage the choice of easy, fascinating books for home reading. She can enlist the aid of parents. She will not have to stress understanding, since the story will do that, but she will endeavor to maintain this essential out-of-school practice in rapid word recognition.

How much skill in this type of reading does the child have? It is most important that the teacher have a definite measure because she must recommend the books that are suitable to the child's ability. Therefore, the teacher needs a test of speed of easy reading. Scarcely any tests of this type are now published. Practically all reading tests now available give directions which slow the child up, make him try to remember, or use kinds of reading which are not typical of the kind used in the children's room of the library when the child is picking out or going through a book. As a result, most teachers test this kind of reading by timing the children as they read a selection from their reader. This method, though crude, is generally effective. It may be the only possible method, since any other kind of test is unlikely, unless very carefully managed, to cause the child to use the same methods used in fluent reading for story comprehension.

Any tests of speed of easy reading should be prepared for particu-

lar grade levels. The reading matter would have to be easy for the children but not too easy. That is, an average sixth-grade child could not be tested on a seventh-grade test because the test would be too hard for him. He could perhaps be tested on a fifth-grade test, but a fourth-grade test would not show the extent of his real ability. It is this adjustment to grade levels which renders practical and sound the test on a part of the reader, and it is lack of this grade adjustment which helps make most of the present published tests useless for the teacher's purpose.

5. *A teacher can teach careful reading for meaning.* It is important for a teacher to know whether a child is a "careless reader." If he is, the teacher can require careful reading from the pupil. She can question him on his reading to make sure that he is getting the meaning. She can seek to establish the habit of understanding what is read instead of just running over the words. What the teacher needs, therefore, is a test of reading for thought. There are, however, many degrees of the ability of reading for thought, since the thought units vary greatly in complexity. The simplest degree is the reading of sentences, and this ability is the most important because all the others depend on it. Therefore a sentence-reading test is fundamental. Such tests are available, but not all indicate whether the child is a "careful reader." Some of these tests are chiefly vocabulary tests, since the problem is to understand the difficult words used in the sentences. Some do not require careful reading so much as fast reading, since they are made up of easy sentences to be dashed off under pressure. The most successful of the present sentence-reading tests, from the teacher's point of view, are tests giving directions, each sentence telling the child something to do in such a way that he cannot do the right thing, except by chance, unless he understands all the word relationships in the sentence. This sort of thing is what the teacher needs because it indicates to her exactly the kind of instruction required for those making low scores.

6. *A teacher can teach how to study.* A further aspect of careful reading needing special attention from the teacher is learning to study. "To study" in school means to attack paragraphs or longer sections of reading matter and to get from them needed ideas. On this kind of study depends success in many school subjects. There-

fore, the teacher needs a test which will tell how much study ability each child possesses. Then she will know which children need help in this special type of reading.

It is true that study tests now exist. In fact, there are more study tests than reading tests of any other kind. Unfortunately, however, most of these study tests are based on the old idea of study. In the old-fashioned school "study" meant learning by heart everything in the textbook. The child was assigned a section and "studied" it; that is, he memorized it. The teacher then tested the results of his studying by asking questions. The more "searching" these questions were, the better; that is, the more details asked for, the better questions they were supposed to be. A modern test which proposes detailed questions to be answered after the reading of a given paragraph is constructed on the assumption that "study" means remembering everything read. Most of the tests of paragraph-reading are of this kind, notwithstanding the fact that the modern teacher does not assign lessons of that type and does not expect that kind of study. For this reason, no test based on study as remembering is useful from the modern teacher's point of view.

The modern teacher expects a pupil to study with a purpose, and modern textbooks are written with that end in view. The purpose may be to find out the important information in the section read or to find the main points made by the author. These purposes are assumed to be the objects of the reading unless other guiding questions are given before the reading is done. Sometimes, it is true, a modern textbook gives questions after the reading matter, but it is not supposed that the children will answer these questions from memory. Instead, the child is instructed first to read the material for a general impression, then to read the questions, and then to go back over the text to find the answers. "Remembering everything" is not the typical method of study expected from children today.

The existing study tests can only be used in classes where "reading with a purpose" is done by instructing the children to read the questions *first* and then to read the paragraphs. The test then measures what the teacher wants to teach in so far as the questions are the kind given children to direct their school study. The present study tests can be divided, roughly, into those that ask for the main point

and those that ask for details. Each kind, if given as suggested, may suit some of the teacher's needs for measures of the children's ability in particular kinds of study. Some children will be deficient and need help in one kind, and some children in the other. Since teaching the children to find the main point of a selection is quite a different thing from teaching them to locate details, the teacher needs to know which kind of instruction is required.

New study tests, built from the teacher's point of view, will have the same purposes as the study reading now given the children and will use material such as the children are asked to study in school. The new tests will therefore use paragraphs very like those found in textbooks. Present study tests, unfortunately, give material that is appropriate chiefly for recreation reading, such as stories or artistic descriptions. The teacher wishes to test study ability in attacking typical study material, and such material should be used in the tests.

SUMMARY

The needs of the teacher of reading will guide the most advantageous use of present reading tests in the schools. These needs of the teacher may also guide other test-makers to prepare reading tests that (1) will test some specific thing (2) which can be taught and (3) which should be taught (4) in a particular grade. Because teachers can and should teach (1) meanings of words, (2) recognition of sight words, (3) the sounding of new words, (4) fluent reading for story comprehension, (5) careful reading for meaning, and (6) how to study, tests for these abilities at particular grade levels are needed. Given these tests, the teacher will gladly use them, and the children will greatly profit from their use.

TWO TESTS VERSUS THREE TESTS WEEKLY IN TEACHING SPELLING

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The general nature and the purposes of this investigation are indicated in the following instructions given to the teachers in mimeographed form.

This is an experiment to compare two methods of teaching spelling. They are modifications of the pretest method. Certain classes will use three tests of the words being studied each week. Others will use two tests. We ask you to follow directions in order that the general conditions under which the two methods are used will be comparable. Do not give spelling any more care and attention than it ordinarily merits. This is not an attempt to check up on your personal ability as a teacher.

INITIAL TEST

1. On October 15 a test of eighty words selected from those to be studied in your half-grade this term will be given to your class. A list of some of the words in this test will be given you. The other words are given to . . . You will give your list to your class, then exchange with the other teacher or teachers named, and repeat your list in the other class or classes. The children may write the words all in one list. In giving the test, pronounce a word, use it in a sentence, and pronounce it again. Try to use the same sentence each time.

2. Grade the children's papers, exchange with some other teacher and check, and record the children's names and the number of words correctly spelled by each. Head each record sheet with your name, class, and school, and the date of the test. In entering the children's names and scores, use only the left-hand half of the sheet.

3. Turn in the record sheets and the lists of test words to your assistant principal.

EXPERIMENTAL PROCEDURE—TWO-TEST METHOD

In your teaching of spelling two days of the week are to be used for testing and three for study.

Monday.—The word assignment for the week is to be taken up orally with the pupils. Do not call attention to the spelling of the words in any way until the regular spelling period. Have the pupils individually or as a class pronounce each word after the teacher, enunciating each syllable distinctly. The teacher should question on the meaning of any word which she thinks difficult or unknown. Pay special attention to homonyms if any occur. The purpose of this

is to insure correct pronunciation and meaning. Do nothing else; no study, no talking about correct spelling, difficulty, etc. Then dictate the words for the week as a test. Pronounce each word once. Sentences should not be necessary. Allow no alterations of the first spelling.

Check over what has been written. Note the words most often misspelled and the poorer spellers. Go over the words and have each error corrected before the period ends.

Tuesday.—Have individual study of words missed on Monday, using some such plan as the following. Require pupils to pronounce words carefully, distinctly enunciating each syllable, and looking closely at each syllable as it is said. With closed eyes try to see the word, syllable by syllable, as it is pronounced in a whisper. Try to recall how the word looked, and at the same time say the letters. Spell by syllables. Open eyes, and look at the word. If an error has been made, this study should be carefully repeated. When pupil is sure he has learned the word, he should write it and compare. If he makes an error, the study should be repeated from the beginning. The word should be written correctly three times, checking each time to see that it is right.

The teacher should closely supervise the pupils' study to insure that pupils work aggressively and that proper methods of learning are being used. She should utilize this opportunity to investigate the study methods of children who have shown unsatisfactory results in the final test of the preceding week and to correct wrong habits where such are found to have developed.

When a word has been missed by a majority of the pupils, it would be well for the class to take up the study of it together. The teacher should pronounce the word, use it in a sentence, give synonyms, and write it. Have the class pronounce it, emphasizing syllabication. Call attention to the difficult parts of the word, and use whatever techniques are suggested by the nature of the word. Have children write the word, check with blackboard, then cover it with hand and write it again.

Wednesday and Thursday.—The above or similar study procedures are to be used on these two days. *There is to be no written test between Monday and Friday.*

Friday.—Repeat the Monday test, and test on review words. This should provide an index for finding inferior learning habits among the children. Pay particular attention during the following week to poor spellers on the Friday test.

Review.—Words found to be difficult should be carried over for review study the following week.

Graph.—It is very desirable that you devise a graphic way of presenting before the class its progress from Monday to Friday and from week to week.

Home study.—There is to be no home study assigned under either method. Simply say nothing about it.

Time.—Allow twenty minutes for each lesson. If some children really do not need as much time as this, let them do other things, but allow this time to any who can use it. Do not run over twenty minutes.

Consult with the other teachers in your half-grade to be sure that all classes

are studying the same words each week. Continue this procedure until you receive further instructions in January.

THREE-TEST METHOD

In the three-test method three days of the week were used for testing and two days for study. The directions to the teachers for the work to be done on Monday and Tuesday were the same as those for the two-test method. The instructions for the remainder of the week were as follows:

Wednesday.—Always repeat the Monday test on Wednesday, checking as before to locate the hard words and the poorer spellers.

Thursday.—Use as suggested for Tuesday above with special study on the words missed on the Wednesday test.

Friday.—Repeat the Monday test and test on review words. This should provide an index for finding inferior learning habits among the children. Pay particular attention during the following week to poor spellers on the Friday test.

The instructions concerning review, etc., were the same as those given the teachers in the two-test method.

PROCEDURE AND RESULTS

The experiment was begun early in October, 1931, and concluded on January 22, 1932, in Public School 165, New York City.¹ Thirty classes, comprising 1,078 pupils from Grade II A to VI B, inclusive, served as subjects in the study.

The eighty-word test mentioned was given at the beginning and at the end of the study. On the basis of the initial scores the pupils in each half-grade were matched so as to form groups of identical distribution in initial ability. This procedure, of course, considerably reduced the number of cases actually used, inasmuch as all pupils in either group whose initial scores in spelling could not be matched with those of members of the other group were eliminated.

The difference between the initial and the final scores gave a measure of the degree to which the pupils learned the words actually taught during the term. The Modern School Achievement Test in Spelling, which consists of words commonly taught at all levels from Grade II to VIII, inclusive, and which therefore in these groups primarily tested ability to spell untaught words from higher levels, was given at the conclusion of the experiment. The results are given in Table I.

¹ The writers are greatly indebted to the principal, Mr. Jacob Theobald, and to the teachers of Public School 165 for competent and cheerful co-operation.

TABLE I

SCORES ON INITIAL AND FINAL TESTS AND SCORES ON MODERN SCHOOL ACHIEVEMENT TEST IN SPELLING MADE BY PUPILS IN GRADES II A-VI B INSTRUCTED BY USE OF TWO TESTS AND THREE TESTS WEEKLY

Grade	Initial Score	Final Score	Gain	Score on Modern School Achievement Test
II A (29 pupils):				
Two-test ..	16 7	67 3	50 6	5 9
Three-test	16 7	60 1	43 4	5 7
Difference ..	0 0	7 2	7 2	0 2
Standard deviation		3.9		0 2
II B (15 pupils):				
Two-test ..	9 3	74 7	65 4	6 6
Three-test	9 3	32 2	22 9	4 5
Difference ..	0 0	42 5	42 5	2 1
Standard deviation		6 8		1 4
III A (34 pupils):				
Two-test ..	28 9	58 6	29 7	18 6
Three-test	28 9	58 0	29 1	13 2
Difference ..	0 0	0 6	0 6	5 4
Standard deviation		4 4		1 2
III B (21 pupils):				
Two-test	44 8	77 7	32 9	31 1
Three-test	44 8	68 9	24 1	22 5
Difference	0 0	8 8	8 8	8 6
Standard deviation		4 8		2 7
IV A (34 pupils):				
Two-test	31 3	58 3	27 0	29 4
Three-test	31 3	52 0	20 7	24 5
Difference	0 0	6 3	6 3	4 9
Standard deviation		4 2		3 0
IV B (25 pupils):				
Two-test	34 1	69 8	35 7	34 1
Three-test	34 1	71 1	37 0	37 6
Difference	0 0	- 1 3	- 1 3	- 3 5
Standard deviation		4 9		3 1
V A (47 pupils):				
Two-test	49 4	71 6	22 2	47 3
Three-test	49 4	72 7	23 3	47 3
Difference	0 0	- 1 1	- 1 1	0 0
Standard deviation		1 6		3 1

TABLE I--Continued

Grade	Initial Score	Final Score	Gain	Score on Modern School Achieve- ment Test
V B (69 pupils):				
Two-test.....	55.1	70.5	15.4	51.9
Three-test.....	55.1	71.8	16.7	51.2
Difference.....	0.0	1.3	1.3	0.7
Standard deviation.....		2.2		3.5
VI A (42 pupils):				
Two-test.....	57.5	70.6	13.1	57.4
Three-test.....	57.5	70.8	13.3	56.6
Difference.....	0.0	0.2	0.2	0.8
Standard deviation.....		2.8		3.6
VI B (63 pupils):				
Two-test.....	57.4	72.0	14.6	60.7
Three-test.....	57.4	72.1	14.7	56.5
Difference.....	0.0	0.1	0.1	4.2
Standard deviation.....		2.3		3.1

The results seem to indicate some superiority of the two-test plan in the lower grades, from Grades II A to IV A, inclusive, both in the tests of words taught and in the Modern School Achievement Test in Spelling, which consists chiefly of words not studied during the term. Although some of the differences are not highly reliable statistically, the tendency for the two-test plan to excel is apparent. The implication is that in the lower grades it is more profitable to spend the mid-week day in study than in testing.

For Grades IV B to VI B the results are inconclusive. While the gains under the three-test plan tend to be larger on the words studied, they are only slightly so and in most cases unreliably so. On the test of words from various grade levels (up to and including Grade VIII), the reverse is true on the whole. These figures shift consistently to an advantage in favor of the three-test plan in Grade IV B, through equality in Grade V A, to a considerable advantage in favor of the two-test plan in Grade VI B. When Grades IV B to VI B are considered as a whole, the advantage of the two-test plan on the Modern School Achievement Test is negligible. If equal weight is given

the results for the two tests, the conclusion is that in Grades IV B to VI B neither method shows an advantage, whereas in Grades II A to IV A, inclusive, the two-test plan seems slightly superior.

The extraordinary superiority of the two-test plan in Grade II B throws some light on the significance of the results in general. The two-test plan in this case was employed by only one teacher, whose pupils were very good at the beginning; hence the inability to secure many matches with pupils in the two classes using the three-test plan. This teacher succeeded in teaching these pupils a technique of learning to spell which lifted their ability from an initial score of nine to a final score of seventy-five correct words out of a possible eighty. While it was believed that the two-test plan, which gave more time for study, was an advantage in this case, it is apparent that skilful teaching and supervision leading to interest and ability in learning to spell were the really important factors.

CASE STUDIES IN READING AND DEDUCTIONS ON RETARDATION

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During the last five years the writer, in connection with his courses and experimentations in reading, has come into close personal contact with a considerable number of retarded readers. In this article a few typical cases will be described, and some conclusions will be stated concerning means of preventing serious retardation in reading in the primary grades.

CASE STUDIES OF RETARDED READERS

A bright sixth-grade boy.—This boy, eleven years old, was doing failing work although his intelligence was above normal. The principal and the teacher were contemplating demotion, and the boy was discouraged and disinterested. His grade score in comprehension of paragraph meaning was 5.8; in word meaning, 4.8. He was inaccurate in oral reading and seriously lacking in the ability to analyze words for recognition purposes. His rate of reading a fifth-grade story was 158 words a minute. His spelling was poor.

The poor spelling and the slowness and inaccuracy in word recognition in reading had a common cause, namely, a lack of acuity in visual perception and analysis of word forms and an inability to break words into their natural recognition and pronunciation parts by means of visual analysis and application of phonetic knowledge. Systematic exercises for overcoming these lacks; daily lessons in spelling, beginning with the third-grade lists in a textbook having considerable grouping of words according to phonetic similarity; and systematic speed exercises, for which objective records of progress were kept, resulted in rapid improvement. Successes and improvements were especially commended by the coach at home and by the teacher at school. Improvement at school was soon reported. The boy was promoted with his class, and a year later he was reported as doing well and having no further trouble.

A high-school girl who read slowly.—This girl, fifteen years old and of normal intelligence, was entering Grade X after having made normal progress in school. Her comprehension level in reading was that of an eighth-grade pupil, and her rate in the silent reading of a sixth-grade story was 150 words a minute, or a fourth-grade standard. The girl did little voluntary reading.

The most important immediate problems in this case were to increase fluency in silent reading and to develop an interest in reading for fun. In six weeks of practice in the silent reading of sixth-grade stories, during which a graphical progress record of rate was kept, the girl attained a reading rate of three hundred words a minute. Her coach reported that she was comprehending the stories better at the end of the period than she had done at the beginning of the practice. She had been induced to obtain a library card and was undertaking regular reading for fun.

An Italian non-reader of low intelligence.—This boy, eleven years old, with an intelligence quotient of 67 on the Stanford-Binet tests, recognized only two words ("bed" and "cat"). He was right-handed, normal emotionally, and possessed normal sight. Italian was usually spoken in the home. The child had been in school five years and was working in an ungraded class.

A teacher in the writer's class coached this boy for twenty minutes a day for three months. A preprimer unit of workbook material was first used. By the end of the three months the boy had completed the Webster primer and the accompanying preprimer and primer workbook.¹ At this time, in the presence of a class of teachers, this boy read the first story in the primer of *The Elson Basic Readers*² with help on only three words. He had not previously seen this book.

A pupil repeating Grade I because of poor word recognition.—A girl, seven years and seven months old, was repeating the high-first grade. Her mentality was probably normal, and she came from a high-grade, well-to-do home. Tests showed a word-recognition level of 6.7 years and a variety of types of errors, with a tendency to

¹ Clarence R. Stone, *Tom, Jip, and June*. The Webster Readers, Primer. St. Louis, Missouri: Webster Publishing Co., 1932.

² William H. Elson, Lura E. Runkel, and William S. Gray, *The Elson Basic Readers*. Primer. Chicago: Scott, Foresman & Co., 1930 (revised).

depend on the beginning of a word and to neglect the remainder. The child was slow in her visual perceptual processes.

The main problem was to build up a stock of sight words which could be readily and accurately recognized in story-reading. This instruction included much easy reading of primer and accompanying workbook material. This material included the Gates and Huber workbook and primer¹ and the Webster primer and accompanying workbook in mimeographed form. These books were selected because in each case the words used in the primer stories are introduced and repeated in the workbook and because the workbook exercises are organized to develop sharpness of perception of word forms. Because the retarded child had an inferior memory for word forms, much practice was necessary. The instruction was given mainly by the mother under the direction of the writer. Accuracy in oral reading was stressed. Satisfactory improvement resulted, and two years later the mother reported that the girl was doing well in school and was having no further difficulty in reading.

A case of overemphasis on phonics and oral reading. This child was extremely poor in oral reading. He was eight years old and had an intelligence quotient of 109 on the Stanford-Binet tests. His reading age on word recognition in the Gates Primary Reading Tests was 8 years; on reading directions in the same test, 8.4 years. He was left-handed, had normal sight, slow speech, and exhibited restlessness and nervousness. When the study of his case began, he was in high-second grade. He was reported as inattentive and slow at school and was considered a failure in reading. His kindergarten teacher reported that there had been no evidence of nervousness in the kindergarten. Reactions during the silent-reading tests showed pronounced vocalization of words, frequent analytical sounding, queer working of fingers and movement of legs and feet, wiggling of lips, deep yawning, and extreme slowness.

The boy's scores on the Gates Primary Reading Tests did not indicate retardation, but the type of reading habits acquired, as evidenced in the oral reading and attempts at silent reading, showed the boy to be in an immature, auditory stage in reading, with a small

¹ Arthur I. Gates and Miriam Blanton Huber, *Peter and Peggy*. The Work-Play Books, Primer. New York: Macmillan Co., 1930.

stock of sight words; a serious over-dependence on phonics; no versatility in combining contextual, visual, and phonetic aids to recognition; and a strong tendency to confuse words which are similar in general configuration. The writer was convinced that the boy's nervousness was mainly a result of failures and humiliations in oral reading in the presence of the other children. In his school phonics was used from the very beginning, and the method depended on oral-reading responses, while experience in making the direct connection between symbol and meaning in silent reading was somewhat neglected.

In remedial work with this boy much easy workbook material was used, including exercises for developing sharpness of visual perception of word forms, visual analysis of word forms, and application of phonetic knowledge without analytical sounding. Ready and accurate recognition of words and meanings in silent reading with objective responses was emphasized. The boy was taken out of school about the middle of March, and his reading activities were then supervised by his mother under the writer's direction. The director was away during June and July, but finally tests were given the first part of August. The boy showed practically none of the previous evidences of nervousness. He was still slow in the silent reading of simple stories, but his stock of sight words and his accuracy had greatly increased. He had made the transition from an immature, auditory reading with over-dependence on phonics to a type of silent reading showing a minimum of vocalization. The following materials were used in the order listed.

William H. Elson, Lura E. Runkel, and William S. Gray, *The Elson Basic Readers*, Primer and Workbook. Chicago: Scott, Foresman & Co., 1930 (revised).

Clarence R. Stone, *Silent Reading*, Beginning Workbook. Boston: Houghton Mifflin Co., 1925.

Marjorie Hardy, *My Workbook in Phonics*, Part I. Chicago. Wheeler Publishing Co., 1929.

Guy T. Buswell, *Practice Exercises in Careful Silent Reading*, First Grade. Chicago: Wheeler Publishing Co., 1923.

Eleanor Johnson, *My Progress Book in Reading*, Book I. Columbus, Ohio: American Education Press, 1929.

Clarence R. Stone, *Eye and Ear Fun: A Phonic Workbook*, Book I. St. Louis, Missouri: Webster Publishing Co., 1932.

Arthur I. Gates and Miriam Blanton Huber, *Round the Year*. The Work-Play Books, First Reader and Workbook. New York: Macmillan Co., 1930.

William H. Elson and William S. Gray, *The Elson Basic Readers*, Book I and Workbook. Chicago: Scott, Foresman & Co., 1930 (revised).

Mary E. Pennell and Alice M. Cusack, *Friends*. The Children's Own Readers, Primer. Boston: Ginn & Co., 1929. (Used for independent reading.)

Frank N. Freeman, Grace E. Storm, Eleanor M. Johnson, and W. C. French, *Child-Story Readers*, First Reader and Workbook. Chicago: Lyons & Carnahan, 1927.

Mary E. Pennell and Alice M. Cusack, *The Children's Own Readers*, Book I. Boston: Ginn & Co., 1929. (Used for independent reading.)

Marjorie Hardy, *My Workbook in Phonics*, Part II. Chicago: Wheeler Publishing Co., 1929.

Arthur I. Gates and Miriam Blanton Huber, *Friendly Stories*. The Work-Play Books, Second Reader and Workbook. New York: Macmillan Co., 1930. (This book was not completed.)

Frank N. Freeman, Grace E. Storm, Eleanor M. Johnson, and W. C. French, *Child-Story Readers*, Second Reader, pp. 1-66. Chicago: Lyons & Carnahan, 1927.

At the opening of school in the autumn the boy was recommended as prepared to do satisfactory silent reading at a high-second-grade level. It was suggested that oral reading be kept to a minimum for this boy in order to avoid his reverting to his previous habits which were inhibiting progress.

A high-school boy seriously retarded in reading. A boy, sixteen years old, who had completed the eighth grade and who had an intelligence quotient of 70 on the Stanford-Binet tests, made the following grade scores on various subject tests: arithmetic, 7.0; reading comprehension, 3.1; spelling, 2.6; rate of silent reading of a second-grade story, 92 words a minute. He made a variety of errors in word recognition, including confusion of similar letters, reversals, vowel errors, and consonant errors. He had a habit of analytical sounding, sometimes letter by letter. He was right-handed, had been nervous and excitable from early childhood, and had repeated considerably throughout the grades.

The first objective of the remedial work was to develop quickness and accuracy in recognizing one-syllable words. Book I of *Eye and Ear Fun*,¹ a phonic workbook, was utilized for timed exercises in pronunciation of word lists arranged according to common vowel sounds and for timed silent reading of comprehension exercises including these words. Daily spelling lessons on words appearing in

¹ Clarence R. Stone, *Eye and Ear Fun: A Phonic Workbook*, Book I. St. Louis, Missouri: Webster Publishing Co., 1932.

the beginning of the primary book of *The Breed-French Speller*¹ formed a part of the program. A double-column spelling tablet was used, and words misspelled were looked up by the boy and written correctly in the right-hand column. Frequent reviews and tests on these words were given. *The Tree Boys* and *Fleeffoot, the Cave Boy*² were used for daily timed silent reading, and an objective record of the boy's progress in rate was kept. "A Reading Game" in the Webster second reader³ was used, and an objective record of accuracy and a record of progress in speed were kept. The boy was given opportunity to select reading units from informational readers and other books. *My Progress Book in Reading*, Book II,⁴ was used for developing accuracy and fluency in oral reading.

In one month the boy's grade score in comprehension was raised from 3.1 to 4.0. He attained and held a rate of 170-80 words a minute in reading fourth-grade stories and was able to read third-grade material orally with fluency and a high degree of accuracy. The boy entered the high school and took a special course, including typewriting, agriculture, and shop work. He continued his practice in reading under the supervision of his mother and is reported to be progressing rapidly.

PREVENTING RETARDATION IN PRIMARY READING

The somewhat detailed descriptions of problem cases in reading given in the preceding paragraphs are illustrative of retarded readers to be found in school systems generally. An appreciable number of children who are seriously retarded in reading will be found in practically every school of several rooms or more. Indeed, the crop of non-readers and retarded readers produced by the American schools today is a reflection on the efficiency of certain practices and materials in primary reading. What are the underlying causes of this retardation from the standpoint of the conditions of the child and from the standpoint of his learning conditions? What are the most

¹ Frederick S. Breed and William C. French, *The Breed-French Speller*, Book I. Chicago: Lyons & Carnahan, 1927.

² William L. Nida, *The Story of Man*, Book I, *The Tree Boys*, Book II, *Fleeffoot, the Cave Boy*. Chicago: Laidlaw Bros., 1929.

³ Clarence R. Stone, *Joyful Reading: The Webster Readers, Second Reader*. St. Louis, Missouri: Webster Publishing Co., 1932.

⁴ Eleanor Johnson, *My Progress Book in Reading*, Book II. Columbus, Ohio: American Education Press, 1929.

important preventive measures to be taken by school officials, including teachers?

In the case of children with mentalities appreciably below normal, the most important cause of reading disability appears to be the practice of exposing the children to beginning reading before they have reached the prerequisite maturity. It is now generally recognized that a child should have a mental age of at least six years to six and one-half years before he is exposed to systematic instruction in beginning reading. Earlier attempts to learn to read involve the risk of failure with the consequent discouragement and dislike for reading, together with the acquirement of habits tending to inhibit future progress in reading.

Furthermore, the typical methods of instruction used have been poorly adapted to the child who is relatively immature mentally. In the opinion of the writer, the material offering the most favorable conditions for the slow learner to make a successful and satisfying start in learning to read is found in simple workbook material, with the picture-dictionary feature prominent. With a group of slow learners the best results are obtained by using flexible chart material for setting up similar reading exercises with a common center of attention before the individual reading and the responses in the workbook are undertaken. Although such a plan is essentially a silent-reading plan, there should be much saying of the words, phrases, and sentences as a natural part of the child's responses, especially in the chart exercises; and in the co-ordinate story-reading, based on the same vocabulary, there should be a considerable amount of oral reading.

Why do we find beyond the first grade a surprisingly large number of children of normal or superior intelligence who are non-readers or seriously retarded readers? While there is a considerable list of factors operating as causes, and usually a combination of factors in any one case, the fact is that in all these cases the difficulty lies in learning and remembering word forms. Exhaustive study of the recent literature and extensive direct experience in the field have led the writer to the conclusion that the type of beginning reading just suggested for the child of low intelligence is also the most effective for use with a child who has normal or superior intelligence but who

experiences difficulty in learning to read because of emotional and dispositional factors, deficiencies in the memory and visual perception functions in relation to word-learning, auditory deficiencies, left-handedness, right-handedness, and left-eyedness, lack of definite dominance of either of the hemispheres of the brain, a lack of a working knowledge of the English language, a hearing handicap, eye-muscle imbalance, or a combination of any of the foregoing factors. Recently used methods, especially methods which are almost entirely oral-reading or auditory methods and which involve reading from memory of context, are notoriously ineffective. What is needed is a skilful combination of auditory experience and experience in making the direct connection between symbol and meaning, such as is necessary in the use of good workbook material, and much repetition of the words in highly interesting stories and in comprehension exercises with objective responses. It is probably of interest to note that Gates has arrived at similar conclusions.¹

During the last five years a considerable amount of instructional material in beginning reading has become available in the form of flexible chart material, workbook material, and simple, interesting beginning story material, which is of great value in preventing retardation in reading in the primary grades. In the professional literature on the teaching of beginning reading are now found excellent discussions of the underlying psychology of methods and materials especially effective in preventing retardation of children who experience unusual difficulty in learning to read.

A continuance of the present amount of serious retardation in reading having its source in the first and second grades is inexcusable, and the responsibility for the conditions rests squarely on the shoulders of the administrative and supervisory officials of the schools. The policy now followed in many centers of curtailing expenditures for new primary reading materials will inevitably come to be recognized as "penny wise and pound foolish." It cannot be too strongly emphasized that within the last few years science and technology have made notable advancements in the important field of beginning reading, as well as in the industrial field.

¹ Arthur I. Gates, *The Improvement of Reading*, pp. 275-304. New York: Macmillan Co., 1927.

SELECTED REFERENCES ON ELEMENTARY- SCHOOL INSTRUCTION¹

I. CURRICULUM, METHODS OF TEACHING AND STUDY, AND SUPERVISION

LEO J. BRUECKNER
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In this bibliography are included selected publications in the field of the elementary-school curriculum, methods of teaching and study, and supervision of elementary-school instruction which appeared during the period from April 1, 1932, to March 31, 1933. Foreign-language titles have not been included, nor have popular articles on these topics which appeared in magazines and journals been included unless they presented facts not generally known or an original and challenging point of view. Although a systematic scrutiny was made of most of the important publications of the period indicated, it is probable that valuable contributions have been overlooked.

CURRICULUM²

240. BONSER, FREDERICK G. *Life Needs and Education*. New York: Teachers College, Columbia University, 1932. Pp. 288.

A collection of the writings of the late Dr. Bonser, representative of his point of view on the curriculum, compiled and published by a group of his friends. Emphasis is given to Dr. Bonser's concept of education as an instrument for enrichment and direction of life.

241. BROWNE, GEORGE S. *The Case for Curriculum Revision*. Educational Research Series, No. 8. Melbourne, Australia: Melbourne University Press, 1932. Pp. 184.

Contains a suggested plan of curriculum revision for Victoria and a discussion of the probable outcomes and difficulties to be overcome.

- 242 COBB, ERNEST. *One Foot on the Ground: A Plea for Common Sense in Education*. New York: G. P. Putnam's Sons, 1932. Pp. 218.

An attack on progressive education at its most vulnerable point, its fundamental lack of direction.

¹ This list is one of a cycle of twenty lists covering all major aspects of the field of education which is being published co-operatively by the *Elementary School Journal* and the *School Review*.

² See also Items 8 and 10 in the list of selected references appearing in the January *School Review*, Item 81 in the February *School Review*, Item 120 in the April *Elementary School Journal*, and Item 406 in the September *School Review*.

243. COUNTS, GEORGE S. *Dare the School Build a New Social Order?* John Day Pamphlets, No. 11. New York: John Day Co., 1932. Pp. 56.
A challenge to teachers to "teach for power and then make the most of their conquest."
244. FEATHERSTONE, WILLIAM B. *The Curriculum of the Special Class: Its Underlying Principles.* Teachers College Contributions to Education, No. 541. New York: Teachers College, Columbia University, 1932. Pp. 158.
Reports the results of a survey of instruction in special classes and suggests the types of adjustments that should be made.
245. FITZGERALD, JAMES A. "Words Misspelled Most Frequently by Children of the Fourth, Fifth, and Sixth Grade Levels in Life outside the School," *Journal of Educational Research*, XXVI (November, 1932), 213-18.
Gives grade lists and a composite list of the one hundred words most frequently misspelled by pupils in Grades IV-VI.
246. FITZGERALD, JAMES A. "Situations in Which Children Write Letters in Life outside the School," *Educational Method*, XII (January, 1933), 223-31.
An analysis of the types of letters written by children in Grades IV, V, and VI and the social situations leading to their writing.
247. HOCKETT, JOHN A., SNYDER, AGNES, and HANNA, PAUL R. "The Activity Program in the Intermediate Grades," *Education*, LII (April, 1932), 471-88.
Three more attempts to clarify and define this new venture in the schools are here made. The writers give several illustrations. The point of view expressed is: "Give children opportunities to learn through meaningful and active experiences."
248. HOPKINS, L. THOMAS "Curriculum Making in a Child-centered School," *Educational Method*, XI (April, 1932), 410-14.
Illustrates the principles that should underlie the selection and organization of curriculum units by describing procedures used in the experimental development of units in the Lincoln School of Teachers College
249. HUGHES, AVAN W. *Carrying the Mail: A Second Grade's Experiences (Unit of Work).* Lincoln School Curriculum Studies New York: Lincoln School of Teachers College, Columbia University, 1933. Pp. xiv+254.
A description of the development of an integrated curriculum unit emphasizing the point of view of enrichment.
250. KNOWLTON, P. A. "Publishers and the Curriculum," *Elementary School Journal*, XXXIII (March, 1933), 502-13.
A discussion of the difficulties encountered by publishers because of the rapid change in the curriculum and the extremely varied types of courses of study being developed.

265. DVORAK, AUGUST, and ENGLISH, ELSIE. "The Efficiency of Remedial Teaching," *Educational Administration and Supervision*, XVIII (September, 1932), 466-71.
Reports the effect of a six-week experimental remedial program showing that the average difference between the actual gain and the "regularly expected gain" was 0.64 of a year, thus demonstrating the great value of systematic diagnostic and remedial teaching.
266. FREEMAN, FRANK N. "An Experiment in the Use of Typewriters in the Elementary School," *Elementary School Journal*, XXXII (June, 1932), 752-59.
It was found that the use of the typewriter does not cause a deterioration in either the speed or the quality of handwriting.
267. MONROE, WALTER S., and STREITZ, RUTH. *Directing Learning in the Elementary School*. New York: Doubleday, Doran & Co., Inc., 1932. Pp. x+480.
A treatise on methods making a happy combination of progressive theory and the results of scientific investigation.
268. UNZICKER, CECILIA E., and FLEMMING, CECILE WHITE. "Remedial Instruction an Aid to Effective Study," *Teachers College Record*, XXXIV (February, 1933), 398-413.
Describes the techniques of diagnostic and remedial teaching used in Horace Mann School and gives results to show the effectiveness of these techniques.
269. WITTY, PAUL A., and LABRANT, LOU R. "Some Results of Remedial Instruction in Reading," *Educational Trends*, II (January, 1933), 7-13.
Reports that, as the result of a thirteen-week program of diagnostic and remedial teaching, the average gain of twenty-one ninth-grade pupils markedly inferior in reading ranged from 1.0 year in ability to understand precise statements to 2.9 years in ability to note details.
270. YOAKAM, GERALD A. *The Improvement of the Assignment: A Phase of the Direction of Learning in the Elementary School, Secondary School and College*. New York: Macmillan Co., 1932. Pp. xii+398.
Discusses the need of improving the assignment, arrays the experimental evidence bearing on factors affecting the assignment, and gives numerous concrete suggestions and illustrations of assignments.

SUPERVISION¹

271. ADAMS, SIR JOHN. "The Teacher as a Philosopher," *School and Society*, XXXVI (October 1, 1932), 417-20.
Discusses the need of a basic teaching philosophy and the present apparent lack of such a philosophy in the professional equipment of many teachers.

¹ See also Items 305 and 315 in the list of selected references appearing in the May *School Review* and Item 411 in the September *School Review*.

272. BARTHELMESS, HARRIET M., and BOYER, PHILIP A. "An Evaluation of Ability Grouping," *Journal of Educational Research*, XXVI (December, 1932), 284-94.
Results of controlled experiments show that in improvement in arithmetic, reading, and technical English there is a statistically significant difference in favor of homogeneously grouped pupils as compared with heterogeneously grouped pupils.
273. BRIM, O. G. "Creative Supervision of Student Teaching," *Educational Administration and Supervision*, XVIII (May, 1932), 333-46.
Discusses the problems involved in raising the supervision of student teachers to higher levels of effectiveness.
274. BRUECKNER, LEO J., and IRVING, JAMES A. "A Technique for Comparing the Difficulty of Problems in Textbooks in Arithmetic," *Elementary School Journal*, XXXIII (December, 1932), 283-85.
Describes a technique that may be used by a committee on textbook selection to determine the relative difficulty of problems contained in textbooks in arithmetic. Data comparing ten fifth-grade textbooks are given.
275. BRUECKNER, LEO J., and LAUMANN, GEROLD S. "The Measurement of Accuracy of Judgments of the Difficulty of Arithmetic Problems," *Educational Method*, XII (March, 1933), 338-45.
Describes a technique that may be used by supervisors or teachers to determine the relative difficulty of problems in arithmetic textbooks and gives data concerning the reliability of the technique.
276. BRUECKNER, LEO J., in co-operation with LESLIE D. WHITE and FRED DICKEMAN. *A Curriculum Study of Teacher Training in Arithmetic*. Minneapolis, Minnesota: University of Minnesota Press, 1932. Pp. 28.
Reports the results of a survey of teaching difficulties by means of a standard check list, as reported both by teachers and by supervisors. The uses of this survey approach by supervisors is discussed.
277. BUSWELL, GUY THOMAS. "The Laboratory Method in Educational Psychology," *Elementary School Journal*, XXXII (May, 1932), 656-65.
Discusses the place of laboratory techniques in the systematic, analytical study of learning and the influence of the findings of this research in the improvement of instruction.
278. COREY, STEPHEN M. "The Present State of Ignorance about Factors Effecting Teaching Success," *Educational Administration and Supervision*, XVIII (October, 1932), 481-90.
A discussion of previous discussions in this field, showing how little is known about measurement of teaching ability and the need of valid instruments.
279. COUNTS, GEORGE S. "Dare Progressive Education Be Progressive?" *Progressive Education*, IX (April, 1932), 257-63.
Points out the need of an adequate social theory to give direction to educational practices and the advisability of indoctrination to achieve desired ends.

280. COURTIS, S. A. "The Measurement of Efficiency of Teaching," *Educational Administration and Supervision*, XVIII (September, 1932), 401-12.
Describes a plan for measuring the growth in ability of pupils as a means of determining different degrees of teaching ability.
281. DAVIS, ELWOOD CRAIG. *Methods and Techniques Used in Surveying Health and Physical Education in City Schools*. Teachers College Contributions to Education, No. 515. New York: Teachers College, Columbia University, 1932. Pp. viii+162.
Helpful suggestions for the supervisory survey of health education in preparation for a constructive follow-up program.
282. EDMONSON, J. B. "A University's Program of Research in Elementary Education," *Elementary School Journal*, XXXIII (October, 1932), 106-11.
A description of the types of educational research carried on in an experimental laboratory school.
283. *Effective Instructional Leadership: A Study of the Problem of Integration*. Sixth Yearbook of the Department of Supervisors and Directors of Instruction of the National Education Association. New York: Teachers College, Columbia University, 1933. Pp. x+184.
Presents data to stimulate thinking about the integration of supervisory organization and activities and contains a critical discussion of the implications of effective instructional leadership.
284. GARVER, F. M. "A Re-Statement of Teacher Types," *Educational Outlook*, VI (May, 1932), 218-26.
Contains a restatement of Courtis' definitions of four types of teachers as given in his rating scale, "Standards of Method and of Skill," and reports the results of a survey of teaching showing the prevalence of each of the four types.
285. JAGGERS, R. E. "State Supervision of Rural Schools," *Educational Method*, XII (March, 1933), 332-37.
Contains data on the present status of state supervision of rural schools--the personnel, the agencies of supervision, and the problems on which help is desired by rural teachers.
286. JUDD, CHARLES H. "Scientific Studies of Teaching," *School and Society*, XXXV (April 9, 1932), 481-88.
A discussion of the influence of the science of education on the improvement of teaching.
287. KELIHER, ALICE. "The Outlook for Measurement," *Education*, LII (April, 1932), 461-66.
Discusses the need of methods of measuring growth and development of personalities in progressive schools.

288. KINNEY, L. B., and EURICH, A. C. "A Summary of Investigations Comparing Different Types of Tests," *School and Society*, XXXVI (October 22, 1932), 540-44.
Summarizes thirty-three studies of methods that have been used to determine the validity, reliability, and time required for administration of various kinds of objective types of tests.
289. LAURIE, HELEN. "Units of Work and Reading," *Elementary School Journal*, XXXIII (November, 1932), 215-26.
Describes a complete supervisory program for improving instruction in reading.
290. MCGAUGHY, J. R., REEDER, EDWIN H., and BETZNER, JEAN. "Teaching and Supervision in the Elementary Schools," *Report of the Survey of the Schools of Chicago, Illinois*, III, 115-40. New York: Teachers College, Columbia University, 1932.
A general discussion of teaching and supervision in the schools of Chicago.
291. MOORE, CLYDE B., and COLE, WILLIAM E. "The Status of Rural Supervisors of Instruction in the United States," *Educational Method*, XII (October, November, December, 1932; January, February, March, 1933), 9-16, 95-98, 153-55, 215-19, 285-87, 351-54.
A series of articles presenting facts concerning the status of rural supervisors and the problems they encounter.
292. SEARS, JESSE B. "The Administration of Public School Research Policies," *Journal of Educational Research*, XXVI (November, 1932), 186-98.
A discussion of principles that should underlie intelligent direction to research as an instrument for rationalizing the school program. The need of research on instruction, curriculum, and supervision is emphasized.
293. SMITH, ETHEL E., and BURTON, WILLIAM H. "The Effect upon Pupil Achievement in Arithmetic Reasoning and Arithmetic Computation of a Supervisory Program in Arithmetic," *Educational Method*, XII (February, 1933), 267-71.
Reports the results of an experimental study of the value of a supervisory program.
294. STENQUIST, JOHN R. (Chairman), and OTHERS. *Educational Tests and Their Uses*. Review of Educational Research, Vol. III, No. 1. Washington: American Educational Research Association of the National Education Association, 1933. Pp. 1-80.
A review of the ways in which educational tests have been used in the study of problems of instruction.
295. TYLER, R. W. "Improving Test Materials in the Social Studies," *Educational Research Bulletin*, XI (November 9, 1932), 373-79.
Discusses techniques for improving the quality of test materials in social studies and gives specific suggestions of procedures to be used to secure the test items.

296. WEDD, L. W., and SHOTWELL, ANNA MARIE. *Standard Tests in the Elementary School: Nursery School to Sixth Grade*. New York: Ray Long & Richard R. Smith, Inc., 1932. Pp. xiv + 532.

A treatment giving a general background of the history of the testing movement, of intelligence and achievement tests, and the interpretation of test results precedes a detailed description of separate intelligence tests applicable to various age levels. Achievement and diagnostic tests for each subject in the elementary grades are fully described and are also listed in summarized form.

297. WOODY, CLIFFORD. *New Problems in Elementary-School Instruction*. Bloomington, Illinois: Public School Publishing Co., 1932.

Includes materials intended to give practice in the analysis of problems and the securing of pertinent data needed to arrive at solutions. The general fields covered are language, reading, spelling, and arithmetic.

298. WOODY, C., and SANGREN, P. V. *Administration of the Testing Program*. Yonkers-on-Hudson, New York: World Book Co., 1932. Pp. xii + 398.

A manual of directions for those having the responsibility of directing a testing program.

Educational Writings

REVIEWS AND BOOK NOTES

The organization of elementary education.—A recent survey of elementary-school organization¹ reveals a rather clear picture of the typical organization used in the administration of elementary-school education in communities with populations ranging from 2,500 to 25,000. Returns from a questionnaire check list, which was not designed to cover all phases of organization, give a representative picture of practices in communities of all sizes within the population range covered. Some of the major phases of elementary-school organization which are given consideration are plant facilities, classification of pupils, programs of instruction, course-of-study practices, promotion of pupils, and provisions for individual differences.

In the main, the study consists in a non-critical presentation of the facts revealed in the questionnaire check list. The author relied on 410 usable returns of 1,989 sent out to superintendents of schools. While the author gives acceptable evidence that the returns are representative of the various sections of the country and of the various sizes of communities within the population range in question, it may be well to raise the question whether elementary-school principals are not better equipped to give the type of information requested than are superintendents, since there is great variety of organizational practices within cities.

Apparently, the only significant change in elementary-school organization since 1890 has been the change from the eight-year to the six-year elementary school. Even here only 54 per cent of the schools represented in the study maintain the six-year organization, whereas in a study made four years earlier it would seem that fewer than half the school districts in the country had changed over to the six-year unit.

Such summarizing statements as the following cause the reviewer to wonder whether the investigation has revealed any significant facts that were not already fairly well known:

On the surface it might appear that an elementary school organized along the lines indicated in the above description would be a rather formalized institution. The administrative practices which have been portrayed are applied in all six grades. The or-

¹ Henry J. Otto, *Current Practices in the Organization of Elementary Schools*. Northwestern University Contributions to Education, School of Education Series, No 5. Evanston, Illinois. School of Education, Northwestern University, 1932. Pp. x+118.

ganization as such appears to be rigid in its operation. Children are admitted on an age basis, classified on the basis of teacher ratings, and reclassified or promoted once a year. Administrative provisions for adapting the organization to the varying needs and capacities of pupils are conspicuously lacking. The course of study is uniform for all pupils, except for the modifications made by individual teachers, and according to their own judgment (p. 97).

While the report will be of real value as a quick reference for those interested in elementary-school practices, there are occasional statements and a few practices referred to by the author in the presentation of his material that might be open to question. For example, on page 14 he implies that the junior high school organization has been under way for the past three decades, whereas it had its real beginning approximately two decades ago. In Table VII the period of instruction in the kindergarten is thought of in terms of 6 months, 12 months, 18 months, and 24 months, whereas in actuality the author probably means 4-5, 9, 13-5, and 18 months. Occasionally, it is a bit difficult to read the author's tables without reference to the context—an arrangement which is to be more seriously criticized than minor errors in fact. Finally, unnecessary repetition occurs throughout the entire volume.

Aside from the type of criticisms suggested in the preceding paragraph, the reviewer feels that the author has made a distinct contribution in a field in which little other than theory has as yet been written. His clear and concise picture of the typical elementary-school unit brought out in his summary chapter should arouse elementary-school educators to the point of constructive action. It should be disturbing to note that the typical elementary school of 1930 is virtually identical, so far as organization is concerned, with the typical elementary school of the 1890's, with one exception, namely, the change from the eight-year to the six-year unit. It also should be disturbing to thoughtful readers to learn that, according to information supplied by the representative superintendents participating in this study, novel administrative procedures recommended in professional literature or observed in operation in other school systems have been adopted by them or by the local districts they serve and have become the accepted practice in those districts without being subjected to a preliminary trial in order that the merits of the new plan in the local situation might be determined. Invariably, practices reported by the superintendents are not considered experimental in character. On the other hand, it is comforting to note that the greatest variations in organizational practice relate to attempts on the part of local systems to improve their classification and promotion practices and thus to do a better job of meeting the individual needs of the children. At present, however, the typical practice, so far as meeting the individual needs of children is concerned, is restricted to voluntary activity on the part of the classroom teacher, which usually involves giving his time outside of school hours.

Early childhood education in England.—The study under review¹ appears at an opportune time because an increasing number of people are vitally interested both in the education of young children and in a furtherance of international understanding. The author obtained her facts by an extensive study of fifty-four schools in England made during the year 1928-29, by analyzing the teaching of 233 teachers in various types of schools, by historical research, and by attendance at English colleges and conferences. The problem was twofold: "(1) to ascertain the present scope and function of schools which provide care and training for English children between the ages of two and seven years and (2) to make an analytical study of their organization, curriculums, methods of teaching, and educational theory, comparing these with some educational practices in the United States" (p. 1).

Some of the outstanding characteristics of the educational system of England are given: (1) It is state supported. (2) There is compulsory education from five or six years of age to fourteen and recently beyond that. (3) It encourages the individual teacher's initiative and a diversity of teaching practices. (4) The school life of a child has four main stages: nursery stage, from two or three to five years of age; infants' stage, five to seven years; junior stage, for children from seven to eleven plus; and senior stage, from twelve to fourteen years.

A detailed description of the historical background underlying present methods of teaching young children gives special emphasis to the establishment of infants' schools in 1816 as a result of the inspiration of Robert Owen, whose emphasis on health and wholesome recreation was important, as well as his attention to character formation; to the well-organized system of infants' schools under the leadership of Samuel Wilderspin, who nevertheless "overburdened the children with training in the formal school subjects" (p. 21); to Pestalozzi's principles of education, which influenced Charles Mayo and his sister to improve infants' schools by emphasizing object teaching; to Froebel's insistence on play and the use of manual activities; and to Montessori's zeal for freedom and individual instruction. "The principles of education advocated by Montessori are by far the most widely accepted principles in English education today" (p. 40).

In describing the infants' schools of today, the author states that these are restricted to the children of the working class and that the curriculum is based on subject matter rather than on activity. Formal work in the three R's is given to children as young as five years, who receive the instruction individually. Speech-training has a most important place in the program, and excellent results are obtained in the development of good tone qualities and in diction.

Kindergartens are select private schools for the upper social classes and are entirely outside the state-supported system, differing decidedly in educational theory and practice from the infants' schools. Through the influence of the Froebel Society, the members of which have always worked for social reform,

¹ Jewell Lochhead, *The Education of Young Children in England*. Teachers College Contributions to Education, No. 521. New York: Teachers College, Columbia University, 1932. Pp. vi+226 \$2.25.

the kindergarten emphasizes social relationships and purposeful group activity. In fact, the organization is similar to representative kindergartens in America.

The English nursery school, which was made a part of the national system of education in 1918, has not expanded as has this school in America. It is organized as a social agency to relieve unfortunate conditions detrimental to child growth. Again, its educational theory is patterned after that of Montessori and does not include a program of parental education and scientific research, such as is characteristic of nursery schools in America. One salient feature is that activity out of doors is urged and planned for the children.

In England at the present time the teachers are not trained for a unified program in the nursery-kindergarten-primary field. There is no set course of study to follow, and untrained teachers are still employed in the infants' schools. The training for nursery-school teachers stresses observation of children, practice, and hospital experience. The National Froebel Union has a decided influence on the training of kindergarten teachers.

The author's final chapter comparing pivotal educational policies of England and the United States is thought provoking and convincing. The entire study is of a high scholastic standard and is a decidedly unbiased portrayal of what one important nation has contributed and is contributing to the education of young children.

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A useful textbook on methods of teaching. --The generation of teachers who were brought up on *Principles of Education* by Ruediger will welcome and enjoy his latest contribution to educational literature. In the new volume is found the same clear exposition so enjoyable in the earlier book. Undergraduates will know always just what the author means. Experienced teachers also will enjoy the critical analyses of familiar principles and techniques. None of the ideas presented in the book is new, but no pretense is made that any is. The contribution lies, not in the presentation of a new theory of teaching, but in the analysis and synthesis of existing ideas. It is one of the few books of which we may say, "It contains no single new idea but is nevertheless well worth reading."

The examination of various principles and techniques is carefully critical. One wishes that much more explicit use had been made of the copious experimental material available. Practically no references are given to investigations and research studies in the field. The general references given, however, contain many such citations. The necessary objective background is clearly in the author's mind, and exposition is soundly based thereon. In contrast, the historical and philosophical material necessary is explicitly included and freely used. In fact,

¹ William Carl Ruediger, *Teaching Procedures*. Boston: Houghton Mifflin Co., 1932. Pp. xvi+472.

the author's intimate knowledge of the history of method, particularly in this country, is an outstanding feature.

Ruediger will be criticized by extremists, as are all writers who follow an eclectic, middle-of-the-road policy. These criticisms will be more than balanced by the favorable response of the great numbers who will use the volume as a textbook or basis for group study.

One illustration will make clear the general stand taken on major problems. The "activity" as an organization of material for teaching purposes is given its full due as a valuable procedure suited to learning on a certain level—that of implicit content. It is then pointed out that on higher levels learning content becomes explicit. Subject organization is not only sound pedagogically but is an inevitable result of increasing mental maturity. While fully sympathetic with children's interests, freedom as a method of growth, etc., Ruediger clearly aligns himself with the views concerning thoroughness of learning and systematic instruction held by William C. Bagley and H. C. Morrison.

The book should be widely used as a textbook in courses in general methods and as a basis for study-group discussions among teacher groups.

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An elementary handbook for directors of testing programs.—Some textbooks in the field of educational measurements are compendiums of information regarding available tests. Other books deal with the problems of test construction. A third group attempts to give advice relative to the use of educational tests. The volume by Woody and Sangren¹ belongs to the last-mentioned group. The authors have had a rich experience in the field of educational measurements, and one would expect the volume to include much sound practical advice. This expectation is fulfilled to a high degree.

The authors state that the book "has been designed to serve as a manual of instructions for those having the responsibility of directing a testing program" (p. iii). The treatment is elementary, and such persons will encounter little difficulty in reading the book. The elementary treatment, however, may be made the basis of a criticism. The reliability of test scores, validity, and effects of practice are dealt with so briefly that, unless the reader consults a more critical discussion, he probably will not attain a satisfactory understanding of the limitations of test scores as measures of achievement. Of course, it may be argued that, when an attempt is being made to stimulate the use of educational tests, it is not wise to direct the attention of superintendents and teachers to the limitations of the instruments the use of which is being encouraged. To do so would tend to defeat the purpose. The authors appear to subscribe to this point of view. On the other hand, it may be maintained that, in view of the wide-

¹ Clifford Woody and Paul V. Sangren, *Administration of the Testing Program* (Yonkers-on-Hudson, New York: World Book Co., 1932. Pp. xii+398. \$2.00).

spread acceptance of educational tests and the promotion of their use by commercial publishing companies, the author of a manual for directors of testing programs should emphasize the limitations of educational tests. Failure to do so will contribute to unintelligent interpretation of the results. An understanding of the causes of systematic errors and the probable magnitude of such errors are important when comparisons are made with norms or with scores from other schools. The reviewer subscribes to this thesis and therefore criticizes the volume with reference to the inadequacy of the treatment of the limitations of educational tests. A more comprehensive and a more critical treatment seems to be desirable.

The formula for a standard deviation is printed incorrectly on page 204. On page 108 the symbol x is used instead of X to designate raw scores. The form of the bibliographical references is not consistent and in a number of instances is not in agreement with the instructions given in the book. A misleading statement relative to central tendencies appears on page 100. These criticisms, however, are of minor importance and do not detract seriously from the merits of the volume. It can be read with profit by those who are directing testing programs and also by teachers. It should, however, be supplemented by a more advanced textbook in which attention is given to the limitations of educational tests and the significance of errors in test scores.

WALTER S. MONROE

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A single salary schedule in operation. "A single salary schedule," states the author of a recent study,¹ "is defined as a schedule which pays the same salary to teachers with equal training and experience regardless of whether they teach in elementary, junior high, or senior high schools, and which pays larger salaries to teachers, in similar positions, who possess greater amounts of academic and professional training" (p. 1). There has been much discussion during the past decade of the single salary schedule. The number of cities adopting such a salary schedule has increased sevenfold, from 32 cities in 1922 to 233 cities in 1931. School officials have the right to inquire what influence a single salary schedule has had on the cost of instruction over a period of years. The author has made a contribution for students of administration who are studying the influences of training, experience, and salaries on the quality of service being rendered in the public schools.

The problem attempted is to compare the factors influencing a city with a single salary schedule and those same factors influencing another city with a regular salary schedule. The author explains that a regular salary schedule is a schedule according to which the salaries paid teachers in the elementary schools are not the same as those paid teachers in the high schools with the same or

¹ Rosewell Page Bowles, *The Operation and Effects of a Single Salary Schedule*. Teachers College Contributions to Education, No. 518. New York: Teachers College, Columbia University, 1932. Pp. viii+140. \$1.50

equivalent training and under which men and women are not treated as equals in matters of salary. The two communities compared are located in the state of Virginia. The study is a comparison and an analysis of the facts found with no attempt at statistical treatment of the data other than the figuring of median and average salaries of various groups of teachers.

One chapter of the study is devoted to a general comparison of the city having a single salary schedule with five cities in the state having regular salary schedules. The conclusions drawn from this comparison support the evidence collected in the more intensive study of the two individual cities, the one having the single salary schedule and the other the regular salary schedule.

The data collected lead to the conclusion that there are several distinct advantages for the city school system having a single salary schedule. First, the city having a single salary schedule has a more progressive, better-trained teaching staff because of the incentive to secure additional training while in service. The training and larger experience are particularly outstanding in the elementary schools. Second, the cost for instructional service remained comparable over an eight-year period with that of the city having the regular salary schedule. Finally, the author concludes by recommending the single-salary principle because it secures a better-trained, more efficient, and better-satisfied teaching staff for a school system.

The annotations in the bibliography make it particularly valuable to anyone who wishes to make a study of the single salary schedule. This study can well be used as a guide for school officials who are considering the problems of the single salary schedule. Any method which will increase the training of a public-school teaching staff is worth the consideration of students of school administration.

The investigation lacks breadth, since but one city with a single salary schedule is considered in making the comparison and drawing the conclusions. No quantitative measures are made between the quality of instruction in the cities employing regular salary schedules and the quality in the city employing the single salary schedule. It is assumed that increased training results in an improved quality of instruction. The question of cost of the single salary schedule also arises. It is doubtful whether the single salary city has reached its maximum costs for instruction, since only 5 per cent of the teaching staff have reached the maximum salary.

CLIFFORD M. GOULD

KENMORE PUBLIC SCHOOLS, KENMORE, NEW YORK

A manual on the treatment of defective speech.—The authors of a recent book¹ tell us in the Preface that their intention is to offer a technique for correcting all

¹ Edwin Burket Twitmyer and Yale Samuel Nathanson, *Correction of Defective Speech: A Complete Manual of Psycho-Physiological Technique for the Treatment and Correction of the Defects of Speech*. Philadelphia. P. Blunkiston's Son & Co., Inc., 1932. Pp. xviii+414. \$3.50.

types of speech mutilations, from the faulty articulation of the "baby talker" to cases of profound stammering or stuttering. Assuming that environment cannot be controlled, they concentrate their attack on the development of the individual pupil through phonetic drills.

As a means of introducing system and sequence into their drill work, the authors divide speech sounds into two groups, namely, the continuants and the stops, the one being the group of sounds in which the vibrated breath is not stopped and the other the group in which it is stopped by the organs of articulation. They say that in one or both of these processes speech difficulties arise. This conclusion would seem to follow without saying since the two groups include all speech sounds.

Another classification is offered in a "curve of articulation," which represents diagrammatically the following classifications in order: *t-d-n*, *p-b-m*, *f-v*, *s-z-lh*, *sh-j-ch*, *k-g*, and *h*. This classification, the authors state, is based on (1) facility of expression and (2) pedagogical methods and is superjosed on (3) anatomical correlates. Though admittedly conceptual and schematic, in part at least, and though having all the disadvantages of a threefold basis of classification, this grouping serves as the guiding rule of procedure of the corrective technique proposed by the authors. They follow it as strictly in treating stuttering as in treating other defects. They say that they present each word only after its component sounds have been the subject of training and practice, and they believe that the value of their method is found in the complete mastery of each step before proceeding to the next step.

The authors take the position that, just as subliminal kinaesthetic excitations "seep" into consciousness and thus control our judgments of space, so the phonetic elements of words control word utterance. This doctrine is the basic psychological assumption of the book but is in sharp conflict with the point of view of *Gestalt* psychology that, in behavior, wholes govern parts, instead of vice versa.

The technique of correction involves (1) correct breathing, (2) correct kinaesthetic imagery (*Oratans*), and (3) combination of these two. "*Oratans*" is defined elsewhere as meaning "oral position" as well as imagery.

Most of the book (334 pages) is taken up with exercises worked out serially on the basis of the classifications adopted. Part III includes case-record forms, progress sheets, etc. Nathanson adds a chapter on a "conceptual" basis of habit modification.

To the reviewer there seem to be two fundamental doctrines in the book which are open to question. In the first place, the authors explicitly reject the notion of environmental therapy, seemingly without realizing that it is impossible to work out an educational method of correction by any other means. Whether one makes use of phonetic exercises or some other method, it is, at last, an environmental situation which is being brought to bear on the speech defective. The authors quote with seeming approval the statement by Wundt that language is essentially a social function but, as do many other specialists in this

field, straightway depart from this acknowledgment and treat the defects of language as being essentially physiological. The real alternative in treatment is in the choice between a correct and an incorrect environmental situation. The choice is to be made in view of the character of the defect to be corrected. In the case of mere incorrect enunciation or faulty speech, the environment which the authors have thought out is to be commended. In the case of stuttering, which is something much more serious than, and is clinically very different from, mere faulty speech, the environmental exactions which they prescribe not only are beside the point but may be harmful.

Finally, the most seriously erroneous doctrine, from the reviewer's point of view, is that defects like lisping and baby talk are to be treated in precisely the same way as is stuttering. Many students of this problem had thought and hoped that the identical approach to maladies so different as are defective articulation and stuttering had been abandoned forever. As consistently might we go back to the use of leeches in medicine.

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THE REPORT OF THE NATIONAL CONFERENCE ON THE FINANCING OF EDUCATION

The National Education Association has recently made available the "Report of the National Conference on the Financing of Education." This conference was held at Columbia University under the auspices of the Joint Commission on the Emergency in Education of the National Education Association and the Department of Superintendence. The following statement is quoted from the Preface of the report.

The participants in this conference were invited to assist the Joint Commission in the preparation of a brief and authoritative description of the essential procedures in the financing of a modern school system.

The National Conference on the Financing of Education was successful in distilling, from a vast amount of research and experience, the essentials of a modern school-finance program. These essentials are presented in this report. They offer a firm foundation upon which the states and the nation may erect a sound structure for the financing of publicly supported schools and colleges.

The conference drafted a "School Finance Charter," in which it attempted to define the basic principles of a modern school-finance program. The charter is herewith quoted in full.

ESSENTIALS OF A MODERN SCHOOL-FINANCE PROGRAM

Believing that the financing of schools is a paramount public concern, basic to the present and future welfare of our democracy, the following program is offered for action by the American people.

EDUCATIONAL OPPORTUNITY

Universal education.—Funds to provide every child and youth a complete educational opportunity from early childhood to the age at which employment is possible and socially desirable. This right to be preserved regardless of residence, race, or economic status and to constitute an inalienable claim on the resources of local, state, and national governments.

Lifelong learning.—Educational opportunities at public expense for every adult whenever such opportunities are required in the public interest.

Effective teaching.—In every classroom competent teachers maintained at an economic level which will secure a high quality of socially motivated and broadly trained professional service.

ADEQUATE REVENUES

Equitable taxation.—For the adequate support of all governmental activities, including the schools, a stable, varied, and flexible tax system, providing for a just sharing of the cost of government by all members of the community.

Public information.—Accurate, intelligible, and frequent reports to taxpayers and the public on the management of the school money so that complete understanding and constructive attitudes with respect to school taxes and services may prevail.

CONSTRUCTIVE ECONOMY

School board independence.—In every school system a board of education responsive to the will of the whole people and free to adopt and carry out truly efficient and economical financial policies for the schools.

Economical administration.—A uniform and continuous policy of honest, economical, and productive spending of all school moneys.

LOCAL MANAGEMENT

Adequate local units.—In every community trained educational leadership and other services secured through a local unit of school administration large enough to make such services financially possible and desirable.

Community initiative.—For every school district the right to offer its children an education superior to state minimum standards and to seek and develop new methods intended to improve the work of the schools.

STATE RESPONSIBILITY

Equalization of educational opportunity.—For every school district sufficient financial support from the state to permit the maintenance of an acceptable state minimum program of education and to relieve the local property tax when this tax, upon which local initiative depends, is carrying an unfair share of the cost of government.

Professional leadership.—Competent leadership in every state department of education so that reasonable minimum financial standards may be established and educational progress encouraged throughout the state.

Fiscal planning.—In every state a long-time financial plan for public education, comprehensive in scope, based on experienced judgment and objective data, co-operatively developed, continually subject to review and revision, and reflecting faithfully the broad educational policy of the people.

NATIONAL INTEREST

Open schools.—For every child deprived of education by emergency conditions beyond the control of his own community and state, immediate restoration of these rights through assistance from the federal government to the state concerned.

Federal support.—Sufficient federal support for the schools of the several states to protect the nation's interest in an educated citizenship, without federal control over state and local educational policies.

If America is to recover prosperity and persist as a democratic nation, these essentials must be provided.

The first part of the report consists of a statement of the principal recommendations of the conference. These recommendations are followed by a detailed discussion of seven major problems of school finance: (1) "The Educational Enterprise To Be Financed," (2) "State Responsibility and the Financing of Education," (3) "The State's Interest in the Local School Unit," (4) "The Educational Emergency in Its Relation to Taxation," (5) "The State and Constructive Economies in Education," (6) "Securing Desirable State School Finance Legislation," and (7) "The Federal Government and Education."

FEDERAL AID FOR EDUCATION

The following statement is quoted from the *Chicago Herald and Examiner*.

The Roosevelt administration today [August 22] came to the rescue of the American educational system.

With thousands of schools closed and millions of children facing inadequate educational facilities, the administration announced a program affording assistance to unemployed teachers by giving them work relief in closed or drastically curtailed schools.

Harry L. Hopkins, federal emergency relief administrator, announced through Louis Howe, secretary to the President, that state relief agencies had been authorized to pay work relief wages to unemployed teachers.

They will be assigned to regular school officials to teach in the hundreds of

rural schools closed through lack of state educational funds, and in those schools where courses of study were cut because the teachers could not be paid.

Hopkins stressed the primary purpose of this action was to provide necessities of life to unemployed teachers.

He made clear that some of these teachers will be assigned to cities as well as the rural schools, to teach adults who cannot read and write English.

The expenditures from relief funds, Hopkins' announcement said, will be confined to the minimum needs of the teacher. No relief money will be allowed for fuel, textbooks, or other school expenses. Hopkins said thirty-three states had reported approximately eighty thousand teachers were unemployed.

Fifteen other states reported shortened school terms, and in some districts this has meant curtailing them to the vanishing point.

It is to be hoped that the program announced in the preceding paragraphs is but an initial step in the development of a policy of federal aid to education during the period of economic recovery. It is perfectly clear that local and state agencies in many sections of the country will be unable to provide anything like adequate educational facilities during the year 1934, and it is not at all likely that they will be able to do so during 1935. In a great many communities public education has completely collapsed. The schools have been closed, and thousands of young people are being denied the education which they are entitled to have and which society cannot afford to deny them. In other communities the schools will be kept open, but their efficiency will be materially impaired. State systems of higher education are being threatened with, or have already been overtaken by, disaster. The economic recovery which now begins to reflect itself in industry will not be reflected in a return to normal levels of state and local support for public education for another year or more. In the meantime the adoption of the industrial codes will operate to exclude children from industry and to increase further the load which the schools will have to carry. The fact is inescapable that local and state agencies will not and cannot in the immediate future provide adequate schooling for American youth. If these agencies are relied on to do so, the only result will be a partial collapse of the public educational system at a time when trained social intelligence is sorely needed. The federal government is the only agency which can carry into effect measures to meet the emergency. It alone has at its command the necessary instruments of taxation and credit.

There are many who object to extending federal subsidies for general educational purposes in the states as a permanent policy. That issue, however, need not be raised at this time. An emergency exists, and whatever measures might be adopted by the federal government could be clearly regarded as emergency measures without prejudicing in any way future policies in normal times.

THE EFFECT OF MOTION PICTURES ON CHILDREN

For the past four years the Motion Picture Research Council, aided by the Payne Fund, has been conducting an extensive investigation of the effects of motion pictures upon children. The results of the investigation have been published in the following series of volumes: *Motion Pictures and Youth: An Introduction*, by W. W. Charters, combined with *Getting Ideas from the Movies*, by P. W. Holaday and George D. Stoddard; *The Content of Motion Pictures and Children's Attendance at Motion Pictures*, by Edgar Dale; *The Emotional Responses of Children to the Motion Picture Situation*, by W. S. Dyingner and Christian A. Ruckmick, combined with *Motion Pictures and Standards of Morality*, by Charles C. Peters; *Motion Pictures and the Social Attitudes of Children*, by Ruth C. Peterson and L. L. Thurstone, combined with *Relationship of Motion Pictures to the Character and Attitudes of Children*, by Mark A. May and Frank Shuttleworth; *Children's Sleep*, by Samuel Renshaw, Vernon A. Miller, and Dorothy Marquis; *Movies and Conduct*, by Herbert Blumer; *Movies, Delinquency, and Crime*, by Herbert Blumer and Philip M. Hauser; *Boys, Movies, and City Streets*, by Paul G. Cressey and Frederic M. Thrasher; *How To Appreciate Motion Pictures*, by Edgar Dale.

A recent volume by Henry James Forman, entitled *Our Movie Made Children*, undertakes to summarize in popular form the results of the entire investigation. The following quotation from the summary chapter of the book is extremely illuminating.

The chief part of our interest . . . lies in the fact that 28,000,000 of this [weekly] movie audience is composed of minors, children and adolescents under twenty-one years of age; and that of these 11,000,000 are aged thirteen and younger. The total enrolment in American schools and institutions of higher education, as estimated in *Recent Social Trends*, is approximately 29,500,000. Allowing for the fact that movies are inaccessible in certain rural areas, the two

populations almost coincide; the movie population of minors includes virtually the children of the entire nation, and they average a movie a week or fifty-two a year. . . .

It must be said at the outset that many influences play upon the experiences of children--the home, the school, the community--and it is impossible to state that one influence is more powerful than another. Yet it is entirely practical and useful to estimate the credits and debits of one agency without claiming that it is more or less powerful than another.

Always remembering that certain excellent pictures are from time to time produced, as witness "The Covered Wagon," "Ben Hur," "Grass," "Abraham Lincoln," "Arrowsmith," and many others, Dr. Hale found, upon examination of 1,500 feature pictures, that the average is heavily weighted with sex and crime pictures. An analysis of a smaller sampling of pictures shows a predominance of undesirable, often tawdry "goals" in life, and with a population of characters to match the goals. By this overloading, moreover, life as presented upon the screen is too often inevitably distorted, so that the young and especially children, so far from being helped to the formation of a true picture of life, often derive its opposite. . . .

In the matter of physical effects of pictures upon children and adolescents, one of the most important studied is the effect upon their sleep. By their cleverly devised apparatus, the hypnograph, Drs. Renshaw, Miller, and Marquis were able to obtain actual measurements of the sleep disturbance that follows upon seeing a movie.

The sleep pattern of every child is a highly individual affair, depending upon various factors, such as age, sex, and mental "set." By no means all react alike to the same stimulus. After two and a half years of research, however, covering 6,650 child nights of sleep, the investigators found that, *on the average*, boys after seeing a movie showed an increase of about 26 per cent in their motility over the amount peculiar to them in normal sleep, and girls about 14 per cent. That even where their motility decreased, the decrease was also due to the same cause: that is, the movie had acted as a depressor, owing to fatigue. The effects, though diminishing, were found to persist as long as four or five nights.

The frequently marked reactions of children to certain scenes in most pictures, but notably to scenes in pictures of horror and fright, at least in part explain the effects measured upon children's sleep. Drs. Ruckmick and Dysinger, by means of a psycho-galvanometer, found that in the case of ordinary danger pictures the intensity of emotional reaction of adolescents is twice as great as that of adults, and that of young children, aged six to eleven, three times that of adults. At times the reaction is still greater though at times, too, in the case of adolescents, it is zero. Adolescents were most affected by erotic or suggestive scenes. The pulse and heart action were found to increase considerably, sometimes to double the normal rate. Nervous and emotionally unstable children, naturally, are more affected than others. Ninety-three per cent of 458 high-school children answered that at some times they had been frightened by the movies. . . .

Professor Thurstone and Miss Peterson found in experiments with carefully selected pictures that children's mental attitudes can be effectively changed by viewing those pictures. They found that a pro-Chinese picture makes the children more pro-Chinese; an anti-negro picture makes them anti-negro. They found these effects to persist for a long time, in one case as long as nineteen months. Their conclusion is that "the effect of the motion picture on social attitudes probably persists for a much longer time."

With a less sensitive technique May and Shuttleworth, in attempting to find differences between "movie" and "non-movie" children discovered, to begin with, so few children who had never attended the movies that their non-movie group consisted mainly of children who went infrequently to the movies, and the other group of those who attended two, three, or four times a week. In their tests for attitude they found no differences of significant import. In other tests, however, they found that movie children averaged lower in deportment records and in school work; are rated lower by their teachers, are less co-operative, less self-controlled, more deceptive, and less emotionally stable. Their classmates, though naming them more frequently as "best friends," rate them lower than "non-movie" children in the "Guess Who" test.

Dr. Peters in inquiring how far current motion pictures square with the national mores examined a number of groups including not young children, but adolescents and adults of varied interests, forming virtually a cross-section of the nation. In a total of 142 feature pictures studied he found, for instance, 726 scenes of aggressiveness in love-making that were rated by all groups as below the national standard of mores.

In such scenes, however, as portrayed "democratic practices," treatment of subordinates, employees, or treatment based upon racial discrimination, and also in the matter of treatment of children by parents, he found the movie scenes meeting with approval.

Imitation is to such an extent natural to children that we can scarcely conceive of non-imitative children. It forms a large part of their education. Movies, because of their concreteness, their visual vividness, now supplemented by the auditory channel, present numerous patterns for imitation. Dr. Blumer found imitation of the movies widespread among the young, not only in such harmless matters as dress and beautification, but in such other particulars as love technique, flirtation, kissing, caressing, "vamping," "necking." Some of these things enter into the daydreams of adolescents, which, as Dr. Blumer puts it, "may stimulate impulses and whet appetites." In this way movies tend to become a school of conduct for children and adolescents . . .

Sometimes certain pictures have a socially desirable effect. Cases are recorded where pictures like "Ben Hur" and "The King of Kings" turned young minds to religious aspiration, and pictures like "Beau Geste" and "Over the Hill," to a closer family affection. Some have been swayed toward ambitions for study, a collegiate training, or foreign travel. The screen, in short, is an open book, a school, a system of education, amounting often to a mold of the characters of the young. . . .

The aim of all the studies upon which the present book is based, as well as of the book itself, is to bring us face to face with the facts—and they are grave. Once in possession of the facts, the public, it is hoped, will find the remedies; for, after all, it is the public that is most vitally concerned. It is a social problem which touches everyone of us, "a critical and complicated situation," and by concerted thought and effort we must, imperatively, solve it.

The Motion Picture Research Council, originally instrumental in causing these studies to be made, will watch the expressions and comments of the public with keen vigilance and, by a careful scrutiny of these against the background of the materials of the research, will doubtless formulate its own conclusions and even, possibly, propose remedies.

At all events, the first great step has been taken and now, largely, the facts are known.

RETARDATION IN THE FIRST GRADE

The South Carolina State Department of Education has recently issued a bulletin entitled *First Grade Progress in South Carolina Elementary Schools*. The following statement quoted from the bulletin reveals that in the elementary schools for white children there is an extremely high percentage of non-promotion of pupils from the first to the second grade.

For the entire state, including schools of various sizes, the percentage of first-grade advancement is much lower than for any other grade of the elementary schools. In the first grade the percentage of pupils advanced in the small schools is very much lower than that of the larger schools. This difference in pupil non-progress of small and large schools beyond the first grade does not appear to hold true to an appreciable extent.

According to size of schools, the percentage of progress and non-progress of pupils was as follows: one-teacher schools, 55.1 per cent progress and 44.9 per cent non-progress; two-teacher schools, 55.9 per cent progress and 44.1 per cent non-progress; three-teacher schools, 55.3 per cent progress and 44.7 per cent non-progress; four-teacher schools, 58.2 per cent progress and 41.8 per cent non-progress; five-teacher schools, 71.3 per cent progress and 28.7 per cent non-progress. After reaching the five-teacher schools, the progress and non-progress remain fairly steady, with the exception of the eleven-teacher size schools, up to the sixteen or more teacher size schools. Here, due to the fewer number of large schools, the larger elementary schools were arranged in groups. For example: All schools with teacher sizes ranging from 16 to 25, inclusive, were placed in the group of 16-25 teacher size schools. In these larger schools the progress and non-progress of the first-grade pupils was as follows: 16-25 teacher size schools, 77.2 per cent progress and 22.8 per cent non-progress; 26-50 teacher size schools, 77.5 per cent progress and 22.5 per cent non-progress; 51-100 teacher size schools, 77.1 per cent progress and 22.9 per cent non-progress; 101-75 teacher

size schools, 89.3 per cent progress and 10.7 per cent non-progress. For the entire state the weighted average of first-grade pupil progress was 68.4 per cent and 31.6 per cent non-progress. . . .

Of the 1930-31 white elementary school non-progress, the first-grade non-progress was 53.4 per cent of the entire non-progress by grades including the first grade through to the seventh grade. The seventh-grade progress, that is, the number of pupils finishing the elementary schools, was not included in this study. The percentage of the first-grade non-progress to the total elementary non-progress is greater in the small schools than in the larger schools. . . .

Since the retardation of pupils was much greater in the first grade than other grades of the elementary schools, questionnaires were sent to teachers of the elementary grades and to superintendents of schools. These requests were sent to teachers in the one, two, three, and larger teacher size schools as well as superintendents of schools. The one-, two-, and three-teacher size schools received the greatest number of questionnaires. In order to get a cross-section of reports from the entire state, a certain number of schools, including at least one superintendent, was selected from each county. In this way, an effort was made to obtain explanations from the teachers as to the cause or causes of the first-grade non-promotion.

The questionnaire asked for the following information: (a) Irregular attendance, (b) Heavy teaching load, (c) Not enough time applied to each child, (d) Entered school late, (e) Illness, (f) Indifference or lack of interest, (g) Low ability, (h) Under-age. The teacher was requested to rank each [item] according to the importance it played in causing first-grade non-promotion. Before each [item] the teacher was asked to place a numeral indicating the order of rank. For instance, (1) Irregular attendance, (2) Illness, etc. A space was left for general remarks at the bottom of the page. . . .

Table II [in the bulletin] contains the replies by teachers on first-grade retardation. "Irregular attendance" is given first rank, with "Heavy teaching load" and "Not enough time applied to each child" following in order named. For second rank the replies give "Not enough time applied to each child" the lead, with "Irregular attendance" and "Heavy teaching load" occurring in order named. "Irregular attendance" leads all other answers as to third-rank place. The remaining answers according to rank, with the exception of "Entered school late," show their highest number of entries below the fourth rank. "Under-age" and "Illness" appear to contribute the least to the cause of first-grade retardation.

Excessive non-promotion in the first grade is by no means confined to the elementary schools of South Carolina. A study of grade progress in the rural schools of Delaware revealed that 48 per cent of the non-progress in the schools was in the first grade, 14 per cent in each of the second and third grades, and 10 per cent in the fourth

grade. In 1931 the Division of Educational Research of the Public Schools of Philadelphia secured information with respect to promotion in the elementary schools of thirty-nine of the largest cities of the country. It was found that on the average the promotion rate for the first grade was 6 per cent lower than for the elementary school as a whole. Hollis L. Caswell's recent study of non-promotion in thirty-seven cities located in different parts of the country (*Non-Promotion in Elementary Schools*, Field Study No. 4, George Peabody College for Teachers) reveals that "the first grade has a rate of non-promotion on the average of 16 per cent, while the remaining grades have rates between 8 and 10 per cent."

There is something vitally wrong with an educational policy which permits the first grade to become the "shock" grade of the elementary school. To be met with failure at the very threshold of his school experience is a matter of no small import to the child. It is difficult, of course, to determine with any degree of precision the effect of retardation on personality, although there is reason to believe that retardation is a fruitful cause of delinquency. Moreover, there is a great deal of evidence to support the contention that retardation is seldom an effective educational practice, and it would seem that the practice is particularly questionable in the case of first-grade pupils.

There are, no doubt, many causes of retardation among first-grade pupils. It is very probable that a considerable percentage of these pupils have not attained the mental maturity to do successfully the work required of them. For example, the evidence seems to indicate that pupils who have not attained a mental age of six and one-half years are likely to meet with difficulty in learning to read. In many instances, no doubt, lack of social maturity contributes to failure; for the first-grade pupil finds himself in a world of novel social experience. It is no doubt true, too, as is supposed by the teachers of South Carolina, that irregular attendance and poor teaching are contributing factors of importance. Whatever may be the causes of the high percentage of failure of first-grade pupils, those causes should be discovered and in large measure removed. If pupils cannot adjust themselves to first-grade standards, first-

grade standards should be adjusted to pupils. Here is a problem which should challenge sharply the attention of school administrators.

STATE AND CHURCH IN THE EDUCATION OF YOUTH

The *Daily Mining Journal*, Marquette, Michigan, quotes the following letter from the Rt. Rev. Paul Joseph Nussbaum to the clergy and laity of the Marquette Catholic Diocese, with a statement that the letter was read at all masses in churches in the Upper Peninsula on Sunday, July 30.

To the Clergy and Laity

DEARLY BELOVED: The children of today are the men and women of tomorrow. Their proper education is all important. It is vital to them, to the nation, to the Church. Parents, State and Church have their sacred duties in this matter.

Children are destined for heaven, not for earth. They must be taught to use their faculties, the earth and the things thereof in such a way as to enable them to reach heaven.

Jesus opened heaven for humanity by His death upon the cross. He established His Church to teach the way to heaven. She is essentially a Teacher. She has pre-eminent right over education. While recognizing parental and state rights in the education of youth, she asserts her supremacy to correct parental and state errors in education. She fights every encroachment upon her rights to the supreme teaching office.

This doctrine of the Church's Supremacy in the field of education as it promotes, impedes or destroys the chance of reaching heaven must be preached in season and out of season even though it invites persecution and arouses the ire of pseudo-scientists and pagan educators at what they consider a most arrogant claim.

Since the seventeenth century when the heroic Jesuit Martyrs Isaac Jogues, John de Brebeuf, Rene Goupil, John Lalande and the intrepid Jesuit explorer, Jacques Marquette, passed through this territory the Church has exercised Her teaching office. When the saintly and scholarly Bishop Baraga in the first half of the nineteenth century came to stay in the Upper Peninsula he built the parochial school beside the church to impart secular and religious knowledge to the Redmen. He supported his schools by contributions from the French Lyons Office of the Propagation of the Faith, the Austrian Leopoldine Society, and the U.S.A. Indian Agency. His Diaries preserved here in the Diocesan Archives show these entries.

The early Catholic white settlers in these parts built their schools to train their children in *belles-lettres*, the arts and sciences and at the same time to teach them the way to heaven. You have followed their example and today have

twenty-five parochial grade and high schools, academies and college. Seven thousand of your children frequent these schools. Their tuition at the minimum rate of sixty dollars (\$60.00) per child cost you four hundred and twenty thousand dollars (\$420,000.00) during the past school year.

Despite the unprecedented economic depression of the past few years you have kept these schools open. But, with the increase in federal and state taxation, and the late sales tax on every morsel you eat, garment you wear, every purchase you make, it becomes a question how long you can continue to support your schools.

The State takes an annual census of all children of school age for the purpose of apportioning tax money to the public schools. The State pays the public school the per capita apportionment for the number of children who are attending your parochial schools. The public school in the district where there is a parochial school is taking money for which it gives you absolutely no service. Here is an injustice which must rouse the indignation of all fair-minded people. Pastors should call the attention of the public to this most unethical procedure.

I realize that the "new deal" has given you a ray of hope, and that your faith and your love for your children will lead you to make every sacrifice to provide a complete secular and religious education for your children, but, to take time by the fore-lock and to be prepared for such a calamity as the closing of even one parochial school, which would throw your children into the public school which may not teach religion, I am hereby directing all Pastors to establish in their parishes and missions the "Confraternity of Christian Doctrine."

Gather into the Confraternity intelligent young men and women and give them a course in popular apologetics. You will not be able to make these young people scientific theologians, but you will be able to equip them to correct misrepresentations of religion and to refute calumnies against the Church made by ignorant and malicious bigots. You may also use these trained apologists to assist you to reach every child in your parishes and missions and especially the adolescent youth who, owing to the lack of the Catholic high school in your vicinity, is compelled to attend the public high school.

I request Pastors to apply to the public school officials in their districts for the official census of children of school age. Should they refuse, the Lansing State Department will furnish it. Check all the Catholic children to assure yourselves that no child in your jurisdiction will be without religious instruction.

To create a greater interest in the true principles of education Pastors will please make the late Encyclical Letter of Pope Pius XI on "The Christian Education of Youth" the topic of their Sunday sermons during the month of August. Copies of the Encyclical may be obtained from the National Catholic Welfare Conference Offices, 1312 Massachusetts Avenue, N.W., Washington, D.C. A brochure on the "Confraternity of Christian Doctrine" by the Rev. Raymond Prindiville, C.S.P., may be obtained from the American Ecclesiastical Review Office, Philadelphia, Pa.

Pastors will please send to the Chancery Office on or before September 30 the

names and addresses of the young men and women they have selected for enrolment in the Confraternity of Christian Doctrine, and the number of Catholic children registered on the last official state school census in their district.

May the Holy Spirit direct your zeal for the education of youth and inspire a large number of intelligent, active young men and women to co-operate in one of the great spiritual works of mercy, namely, to enlighten the uninstructed in the things that lead to heaven, especially the underprivileged children who are not in the parochial school.

Please read this letter at all the Masses on Sunday, July 30.

Devotedly yours in Jesus Crucified,

PAUL JOSEPH NUSSBAUM

Bishop of Marquette

MARQUETTE, MICHIGAN

July 29, 1933

A SELECTED LIST OF PROFESSIONAL MAGAZINES FOR TEACHERS

An article bearing the title "Selecting Magazines for Teachers Starved for Professional Vitamins" was published by Professor Carter Alexander, Teachers College, Columbia University, in a recent issue of the *School Executives Magazine*. In this article Professor Alexander, "on the basis of observation, considerable examination of educational periodicals, and talks with leading practical superintendents and supervisors," sets up certain criteria "by which magazines rich in professional vitamins may be identified." He also presents a list of magazines which meet these criteria. The characteristics of the periodicals included in his list are described as follows:

These magazines all have one distinctive quality, they are thought-provoking. When this quality is further studied, it seems to be due to the emphasis on worth-while or important matters, and to the treatment of these in well-written and authoritative articles.

Emphasis on important matters appears in such things as the selection of fundamental problems of educational theory, methods, or policies. Such magazines devote little or no attention to such fleas on the hair of the tail of the dog as "devices" or those camouflaged personal advertisements often headed "news notes." These magazines treat current educational needs, problems, accomplishments, or failures, rather than those of a generation or so ago. They constantly emphasize new ideas, new relationships, new applications of old data, and new interpretations of old views or data. They do not neglect the past, but they use it to suggest what we ought to do or not to do in education now and in the future. All this they do, not simply for novelty's sake, but because the new and complete studies are more apt to contain the truth than are exploded theories, the

disproved assertions and the incomplete studies of bygone years, and the recommendations admirably adapted to the horse-and-buggy era but wholly unsuited to the automobile and aeroplane age, still repeated by a great many educational periodicals for teachers.

The educational magazines rich in professional vitamins are authoritative and well written. They enjoy their eminence, not because of the size of their subscription lists, but because of the inherent worth of their contents. Their articles are interesting, challenging, not pedantic, trite, or platitudinous. They are intelligently and scientifically critical and are not merely promoting a cult or commercial interest. Where possible, their articles are based on evidence and the results of sound research, rather than on mere opinion or the limited personal experience of the writers.

The articles in these magazines are orderly presentations, more or less complete in themselves, of problems that can be adequately treated in the available space. These periodicals do not attempt to cover in an article something that requires a book for satisfactory treatment. Nor do they mislead teachers into thinking that any periodical reading can ever take the place of stimulating, solid, and worth-while books.

The following magazines are included in the selected list of periodicals: for all teachers—*Journal of Educational Research*, *Progressive Education*, and *School and Society*; for elementary-school teachers—*Educational Method* and *Elementary School Journal*; for high-school teachers—*Junior-Senior High School Clearing House* and *School Review*. Professor Alexander points out that no importance is to be attached to the order in which a magazine appears in the list and that the list is not intended to be exhaustive.

A NEW EMPHASIS IN LANGUAGE-TEACHING

RICHARD W. BARDWELL
Superintendent of Schools, Madison, Wisconsin

Apparently there is general acceptance of the principle that every situation in the school which requires or stimulates social intercommunication or individual self-expression in language is the opportunity for developing language ability. This principle implies that every teacher is a teacher of English. It also suggests that the materials and the situations arising in the work on the content in the social-science and the natural-science fields and in the current life of the school group are more vital and therefore much more effective than any which are set up for the specific purpose of developing definite language abilities.

Does the acceptance of this principle mean that the teaching of English, which has usually been considered as the direct attempt of the teacher to improve the expressional abilities of his pupils, is to be reduced to the incidental help which the teacher gives when the group is engaged in work in the so-called "content" fields or in the general social activity of the school? Is there, then, no need for the organization by the school or by the teacher of a direct attack on the problem of developing the language of the children as a definite and specific task? To reply that the teaching of language need only be incidental and that it requires no direct attack is apparently to agree that one of the major purposes of the school can be accomplished most effectively by ignoring that purpose. It may be, however, that we are quibbling over terms and that the question arises only from the method of naming or classifying the work of the school.

How is the teaching which proceeds during the course of a typical school day classified? Is it called history-teaching when the content is information regarding the past, while the same thing is called the teaching of citizenship when the purpose of the teacher is to bring about the general understanding necessary to the functioning of the citizen of today? Is the teaching called geography-teaching when the

content is information regarding the effect of the earth's surface upon man, and is it called economics if with the same subject matter the teacher aims to bring about a better understanding of the source of the material wealth which man should have today to live his most complete life? Is some teaching called health instruction when the content is the information which will be the basis for the normal functioning of the organs, the nerves, and the glands of the human body, or may this same instruction be called the teaching of language if the purpose of the teacher is to bring about a fluency of language expression and a removal of language defects caused by an abnormal physical condition?

If teaching is considered in this manner, the conclusion may be that, if any classification is desirable, a classification which expresses the major purpose of the school or teacher, rather than a classification which merely defines the informational content, is the more logical. The first classification has the advantage of naming the thing in the teaching act which is the more important. Therefore, if the organization of the school program is to be laid out in any specific terms, it should be stated in terms of such purposes rather than in terms of the means, or the content, by which these purposes are to be attained. To organize the work of the school around content would be to imply that information is the center of the organization and to mislead the teacher who is using such an organization as his guide.

It is generally recognized that one of the important teaching purposes of the elementary school is to bring about a development of certain language abilities. There is no general agreement with regard to grade standards in these language abilities, but it is coming to be recognized that not only the development of the abilities but also the teaching which assists in this development must be concerned with the individual difficulty. This recognition indicates the similarity between the fundamental principles of the teaching of language at all grade levels of the elementary school and the principles generally accepted in the teaching of reading after the general reading adaptation has been made. Because of the great range in abilities in every typical schoolroom group, it becomes the task of the teacher to learn what the individual differences are and to apply

his skill to the removal of individual defects and the development of individual skills and abilities.

That this task is not generally undertaken in the elementary schools is probably the cause of the feeling of futility which many teachers have had concerning the actual results of their efforts in teaching language. The enormous amount of energy expended by teachers in vain attempts to improve usage by means of class drill in classes where there exist wide ranges of correctness in usage has contributed to this feeling of futility. Correcting the sentence fault of an individual in a class group or as a class exercise, with a consequent waste of 95 per cent of the total class time, is another typical example of the prevailing method of teaching language which has caused teachers to assent to the idea that language should be merged and taught incidentally. On the other hand, if a teacher, after working with an individual pupil, can see that he has done something for the child in the improvement of the child's language ability, that he has been responsible for some development which in all probability would not have taken place without the teacher's diagnosis and skillful treatment, then he will have no feeling of futility. On the contrary, the teacher will experience from the language-teaching the satisfaction which follows any creative work. With his opportunity throughout the school day to obtain an overview of the language habits, abilities, and weaknesses of the individual pupils in all their school life—work and play—the teacher can observe carefully, diagnose, and prescribe. If the prescription requires treatment beyond his ability or beyond the limits of his direct influence, the teacher can still be the person responsible for setting in action those specialized services available in either the school or the community which will furnish adequate treatment.

Some of the best language-teaching that I have observed was the exemplification of this principle of individual treatment resulting from the teachers' recognition of the relation between language expression and the physical and mental health of the child. A survey of all the elementary schools in Madison, Wisconsin, was made to discover the pupils who were having difficulty in expressing themselves well. In February, 1932, the teachers were asked to report all pupils in their classes who exhibited difficulties of the following

types: (1) speech too low or too fast, (2) repetition or rambling talk, (3) grammatical errors or slang, (4) inability to listen attentively, (5) lack of originality in expression, (6) unwillingness to take part in discussion, (7) embarrassment in speaking before the class as an audience (timidity), (8) indifference to the discussions of the class, (9) eagerness to talk but few ideas (aggressiveness), and (10) too much docility in accepting criticism or suggestions. In order to assist the teachers in the observation and recognition of emotional disturbances which interfere with effective expression, the committee in charge of the study listed the most common causes, such as timidity, aggressiveness, docility, extreme nervousness, and peculiar social attitudes. The following questions were suggested as guides:

1. Is the child timid before the entire class? Before a small group?
2. Is he timid on the playground?
3. Does he want to talk all the time?
4. Is he a bully or a leader on the playground?
5. Is he willing to listen courteously?
6. Does he play fair?
7. Would he rather work alone than enter into a group activity?
8. Is there an antagonism toward one or two others in the class?
9. Is he satisfied with inadequate expression of his ideas?
10. Is he over-sensitive or easily embarrassed?
11. Is he conscious of the response of other children to him?
12. Does he give evidence of poor social adjustment?

The children who had been identified by the specialists in speech correction as extreme problem cases were not included in the reports of the classroom teachers. These extreme cases were already being given specialized treatment, and the teachers had turned over to the special teachers of speech the responsibility for the removal or the improvement of the gross defects which were seriously impeding the language of these children. The cases reported in this survey were, therefore, not the extreme cases but rather those marginal cases in which the teacher recognized that some special help might bring about definite improvement in language. The number of pupils reported for each grade is shown in Table I.

The following analysis¹ of the findings and suggestions for remedial work were sent to each teacher.

¹Ethel Mable, "Language Curriculum Report," Madison, Wisconsin: Madison Public Schools, 1932 (mimeographed).

It is not customary to consider problems of language-teaching from the physical and mental-hygiene viewpoint. Our study gives plenty of evidence, however, that such an attack is fundamental. As we continue to consider these basic problems of expression, we shall all become more keenly observant and understanding. As with physicians of much experience, conditions that we missed previously will become significant, and our diagnoses and treatment will be wiser. Obviously we are plowing in sand when we attempt to train in choice of words and in good sentence structure children who feel that the effort to talk

TABLE I
NUMBER OF PUPILS IN KINDERGARTEN AND FIRST SIX
GRADES OF SCHOOLS IN MADISON EXHIBITING
EACH OF TEN LANGUAGE FAULTS

LANGUAGE FAULT	GRADE							
	Kindergarten	I	II	III	IV	V	VI	All Grades
1. Speech too low or too fast . .	9	28	17	11	19	12	16	112
2. Repetition or rambling talk .	11	18	8	8	11	7	9	72
3. Grammatical errors or slang .	4	17	6	7	14	10	9	67
4. Inability to listen	10	20	8	22	19	14	11	104
5. Lack of originality	5	18	4	3	9	13	4	56
6. Unwillingness to take part in discussion	10	19	7	14	2	5	10	67
7. Embarrassment in speaking before class (timidity)	19	62	48	33	29	28	24	243
8. Indifference to discussion . .	7	22	4	3	11	6	7	60
9. Eageriness to talk but few ideas (aggressiveness)	14	18	19	19	17	19	13	119
10. Too much docility	2	8	11	2	3	2	2	30
Total	91	230	132	122	134	116	105	930

before a group of their classmates is an ordeal. Those children must be given a feeling of security and an opportunity to grow in a satisfying way.

The pupils who are indicated in this study will be followed through the next two or three years. With the help of the guidance department we may be able to secure improvement in some cases in that length of time. We suggest a comparison of these records with your knowledge of reading disability in your building. Failure in a fundamental subject is often the cause of personality difficulties and the so-often attendant language problems.

The number of difficulties reported under 1 may indicate that we need to provide more speech training for all children as well as for those who really have speech defects. The best approach on this is through dramatization and other audience reading and language situations. Pupils needing individual training

for better enunciation or voice control can be discovered and stimulated to practice for improvement through these situations

Evidently the number of pupils making grammatical errors is much smaller than we have always assumed. All of them have probably not been reported, but still comparison of the number after 3 with the number after 7 indicates justification for shifting our emphasis away from correctness as a class objective and making the attack upon it individual.

The most interesting information furnished by these reports is that we have more than twice as many problems due to timidity as to aggressiveness. (Compare 7 with 9.) Most language textbooks have been built upon the principle that children's expression should be limited and controlled to meet a standard of correctness. There is evidence here to warrant an emphasis upon stimulation and encouragement of expression rather than upon suppression.

Indifference and docility are as vital language problems as any of the others reported. It is easy to miss detecting the too docile child. If we consider Problems 4, 8, and 10 together as problems in securing proper listening attitudes, we will discover that we have no small amount of difficulty on that score. The key to this is probably an enriched and varied language program that will secure more active listening.

Some of our difficulties are apparently overcome as the pupils progress through the grades. By continuing to make such development of personality a specific objective in our language program, we could do even more for some pupils.

Is our problem really so small in the kindergarten, or have we missed observing some of the cases? Piaget states that the two children of six years of age whom he studied were only 43 per cent and 47 per cent social in their use of language.¹ If that is an indication of the amount of real communication to be found among children of that age, one of the main objectives in the kindergarten is the training in ability to listen. Yet the number of listening problems reported was very small. Does the more formal work of the first grade cause language problems to increase?

We have a greater number of problems reported in fourth grade than in third grade. Are third-grade standards too low, or is there too sharp an emphasis on achievement in the fourth grade? We cannot now answer these questions, but I raise them for our serious thought.

The suggestions of the committee for correction of specific difficulties were as follows:

1. Examination of child for physical defects.
2. Knowledge of the home situation will be necessary. In obtaining this and in gaining co-operation with the home, the child-guidance department will be helpful.

¹ Jean Piaget, *The Language and Thought of the Child*, p. 35. New York: Harcourt, Brace & Co., 1926.

3. Freedom of expression in all fields, such as rhythm, art, music, pantomime, creative work, provides emotional outlets and gives a richness of experience through which language freedom develops.
4. A sympathetic classroom atmosphere is essential to the progress of these pupils with emotional problems. This means that all children in the group should not be treated alike but that each should have equal opportunity with the others according to his needs and abilities.
5. Ways of handling specific difficulties.

a) Timidity.

- (1) Put child to work at his own level, and lead him gradually from what he can do to a higher level.
- (2) Help him to think through a problem and prepare a few brief sentences with which he is satisfied.
- (3) Provide situations calling for co-operative effort.
- (4) Bring about group approval when possible for it to be sincere.
- (5) Avoid subjecting a timid pupil to group criticism.
- (6) Let him work with a child whom he likes, to give him a sense of security.
- (7) Teacher should be generous but sincere with praise.
- (8) Let him have a feeling of success and of your satisfaction with his achievement.
- (9) Attempt to determine the cause of any inferiority complex.
 - (a) If due to a physical characteristic which makes him conspicuous, such as freckles, unusual size, wearing glasses, curly or red hair, the teacher may enlist the co-operation of the group. This must be done tactfully without the knowledge of the child.
 - (b) If due to an unfortunate home condition, such as unfavorable comparison with another child in the family or indulgent or over-severe parents, the child-guidance department can make suggestions to the parents.

b) Aggressiveness.

- (1) If caused by a feeling of inferiority, handle him much the same as you would the child who for a similar reason is timid
- (2) If caused by a consciousness of unusual ability, his leadership has been overemphasized by frequent appointments as chairman of committees, for leading parts in programs, or possibly by references of teachers to his work as superior.
 - (a) Distribute leadership jobs more fairly in the group
 - (b) Lead the group to judge his work with some degree of sternness.
 - (c) Give him much individual work so that he is not always forcing himself upon, nor being compared with, the group.
 - (d) If possible, put him in a group whose ability is equivalent to, or better than, his.
- (3) If aggressiveness has developed in self-defense against stronger per-

sonalities (usually adults in the home), give him many opportunities for expressing his own individuality without imposing on other children.

(a) Creative work.

(b) Individual projects.

(c) Special responsibility.

c) Nervousness.

(1) Do not hurry him. Allow time for him to express himself.

(2) Eliminate speed element in all his work. Give more time for thoughtful preparation in language.

(3) Avoid competition, the selection of the best, etc.

(4) Make your standard for him the best result that he can secure.

(5) Create an atmosphere of calm and quiet in the classroom without interfering with the freedom of the children.

(6) Rest periods are beneficial to these pupils and to all other children as well.

(7) Do not overtax the capable child with too much special work. Extra-credit work should be interesting, not a repetition of something already mastered.

(8) Avoid over-stimulation or inflated enthusiasm.

(9) Teacher must be careful that her voice is not irritating. Keep voice distinct and vigorous as well as pleasant and low pitched.

d) Undesirable social attitudes.

(i) On the playground. The attitude the group takes toward the child because of his playground behavior sometimes influences his classroom reactions. If he does not enter into the spirit of play, play fair, consider the interests of the group, or observe the rules of the game, his unpopularity with the group creates in him an antagonistic attitude, which carries over into the classroom, thereby inhibiting the freedom of his expression.

(a) May we suggest that any teacher who notices unsocial responses in the classroom watch the children at play.

(b) Form clubs which set up standards of good sportsmanship.

(c) If this child excels in any sport, his leadership in that field may result in his gaining the admiration of the group.

(d) Organize the pupils' play as suggested by the bulletins of the physical-education department.

(e) Make playground situations the subjects of conversation and discussion in the classroom, thereby raising the standards of play.

A subcommittee listed the possible causes of certain language difficulties, such as inability to listen, lack of vigor in voice quality, lack of poise, failure to volunteer, indifference, docility, or lack of interest in revising or improving expression. The committee also

gave suggestions for the recognition of physical handicaps and for procedures in correcting these defects. This list was included in the materials sent out to each classroom teacher:

1. Possible physical causes of language difficulty.
 - a) Malnutrition.
 - b) Underweight condition.
 - c) Fatigue, from such causes as lack of sleep, maladjusted seats, etc.
 - d) Physical defects, such as poor hearing, poor vision, diseased tonsils, etc.
2. Suggestions for recognition of physical handicaps.
 - a) Is the child listless or tired?
 - b) Is he underweight?
 - c) Has he a healthy color?
 - d) Is his posture slouchy?
 - e) What are his reactions to work and play?
 - f) Does he show unusual signs of nervousness or irritation?
 - g) Is he a mouth-breather?
 - h) Has he frequent colds or sore throat?
 - i) Does he show signs of eyestrain?
 - j) Does he have frequent headaches?
 - k) Is he hard of hearing?
 - l) Does he need dental care?
 - m) Does his hair have a healthy appearance?
 - n) Does he have a happy or a worried expression?
3. Suggested procedures in correcting any of the conditions named above.
 - a) A physical examination by a doctor and a dental examination by a dentist.
 - b) A follow-up conference with the mother.
 - c) If posture is due to poor muscle tone, work to build up general health.
 - d) The hard-of-hearing child should be given special consideration in the classroom. Often a front seat will be helpful. Teach him to observe lip-movements.
 - e) In the case of mouth-breathing and frequent colds, ask for special examination of nose and throat.
 - f) Seek to eliminate the cause of fatigue or nervousness, but in the meantime provide rest periods.
 - g) For underweight children or those reported as malnourished, investigate the food habits and co-operate with the mother in securing adequate nourishment.
 - h) If the child does not seem happy, try to determine whether the cause is physical or emotional.
 - i) Secure the co-operation of the physical-education department in all cases.

In order that the teachers might have concrete illustration of the intelligent treatment of physical or mental abnormalities by means

of which the language of the child may be improved, twenty case studies were submitted to the general teaching group by the committee. An attempt was made in the selection of these case studies to draw examples from a variety of causes. These studies proved to be helpful to teachers who had not formerly considered this type of treatment to be within the field of their function as teachers. A typical case study, one of the twenty, follows.

Doris entered Grade III B about the middle of October. Her previous teacher had placed her in the Z group and reported that she had been doing unsatisfactory work because of a great deal of absence. She was very quiet and worked hard. She never volunteered in the group and, when called upon, could not answer. She became pale, her eyes opened wide, and she showed signs of actual suffering from fright.

She was given a group intelligence test, resulting in a score too low for computation. A short time later she was given an individual Binet test, which gave her an intelligence quotient of 80.

A personality test given by the child-guidance department showed a very high degree of personal inferiority, social maladjustment, and undesirable family relationships.

The first attempt to socialize her was made on the playground. Here she stood apart and did not enter into the games. The children were taught a new game in order that she would have an equal chance to learn. She was awkward and hesitant about trying and was not chosen as a desirable player when competition entered into the game; this type of game was therefore avoided at first. Several of the most dependable girls were spoken to about Doris. They were asked to help her as a new girl by giving her a chance to play on their teams so that she could become a good player. Their co-operation was splendid, and it was not long before they came running in with the delightful news, "Doris made a homer!"

Her responses on the home-relationship phase of the personality test were such as these: Her greatest wish was to have her father and mother love her more. She felt that they loved her brother and sister more than they did her. Her day-dreaming score was also high, indicating that she was trying to escape from the realities facing her.

A home call revealed a pathetic economic situation. The father had been out of work for some time. The mother, who was in poor health, was supporting the family of five. They were living in two small rooms in a most dilapidated house. The father talked freely about the child. He said that at home she was very quiet and spent most of her time alone with her books. The two younger children were more active and probably received more attention—a fact which made her feel that they were better loved. The father promised to co-operate by showing more interest in Doris. The fact that she later brought to school

several original contributions saying proudly, "My father helped me make them," showed that the home call had paid dividends.

Since she seemed in good physical condition, it was thought that her extreme timidity might be caused by feelings of inferiority. The personality test confirmed this. An attempt was made to establish her confidence by making favorable comments on all things which she did well, such as neat handwork, perfect spelling papers, and helpfulness in the small chores about the room which she was asked to do. She was placed in a small group of equal ability during the reading and discussion periods. When the small groups were to make their contribution to the whole, special precaution was taken to see that she knew definitely what part she was to contribute. When the time came, she could not say a word; she was dumb with fright. As little attention as possible was paid to her failure, and the work was started all over again. The next time it was planned to have her read the story which she had written. She managed to get through it, but her voice quavered, and her body trembled like a leaf. Work was continued in small but varied groups, and she thus became accustomed to working with many persons. She seemed fond of music and rhythms and soon began to volunteer in these classes. We planned a number of dramatizations where she was not alone in appearing before the group. Sometime later we planned to entertain another grade, and she volunteered to take a part. She became very frightened and left her place beside the little "movie" to come and stand by the teacher's side. With the help of a friendly smile, she succeeded in telling her little story. As she gradually gained confidence in herself, the frightened, worried look left her face, and her voice became stronger. After six months she seemed willing to contribute her share to the activities of the group.

CONCLUSION

Through this co-operative study the classroom teachers came to have a much more complete understanding and appreciation of the effect of physical and mental health on the development of language abilities. More important than this understanding and appreciation, they began to assume responsibility as teachers of language for the intelligent treatment of the problem cases caused by physical and mental ill health and began to bring about changes and improvements which would not have taken place but for their skill as language teachers.

THE TECHNIQUE OF TEACHING WITH RADIO

CLINE M. KOON
United States Office of Education

It may occasionally be justifiable to disrupt a class in order that the pupils may listen to an important broadcast, but, if the radio is to be used regularly in the classroom, its offerings should be an integral part of the subject being taught. In fact, the radio's superiority over other available means of instruction should be demonstrable. The broadcasts should stimulate reflective thinking, supplement the teacher's instruction, and motivate class projects. However, the radio should not be expected to do all for the learner. Skillful teaching is essential if radio instruction is to be interwoven into the fabric of a teaching-learning situation. Advance preparation, guided listening, and follow-up work have their places in the technique of teaching with radio.

ADVANCE PREPARATION BY THE LISTENING SCHOOLS

After the classroom teacher has chosen the radio series that she considers will be most beneficial for her pupils to hear and after the schedule has been adjusted, four problems remain to be solved in the preparation for the reception of the radio lessons. The teacher must decide (1) how to articulate the radio lessons with the regular work, (2) what mechanical aids will be needed and how they should be used, (3) how to create in her pupils the proper mental attitudes toward the radio lessons, and (4) what subject-matter preparation should be made by the pupils.

The articulation of radio lessons with regular school work. The teacher must so arrange the daily schedule that the proper classes can receive the radio lessons. She is next confronted with the problem of fitting the radio lessons into the continuity of the daily instruction in the proper courses. Occasionally a class may be covering the subject in about the same order in which it is being presented over the air. If not, the teacher must determine the best procedure -- whether (1) to get into step with the radio presentations, (2) to use

the radio lesson as a review in case the subject matter has already been covered, or (3) to use the radio lesson as a preview of the subject matter to be treated later. While the first possible choice would be ideal from the point of view of the broadcasting teacher, the local teacher has the responsibility of deciding what is best for her pupils in their location and environment.

The choice and use of mechanical aids.—The first thing that should be considered under this heading is the use of the radio receiving equipment itself. Good reception is essential to the success of the broadcast lesson. The attention of the pupils must not be burdened with the effort to pick out words from a blur of sound. It is not generally realized what clear and reliable reception means nor how frequently schools are content with a standard of reception which is far from perfect. It is important that the speaker's voice should not be reproduced in tones decidedly louder than those in which he is actually speaking at the microphone. Some speakers talk more quietly than others, and their personalities cannot be felt if the timbre and inflection are exaggerated by the loud-speakers.

The loud-speaker should be placed in a position which will insure that every pupil can hear the lesson in comfort. While the acoustics of the room must be given consideration, pupils usually listen better when the loud-speaker is in front of them and about on a level with their heads. The pupils should be in such a position that they will be able to see the blackboard, write notes, examine maps, etc., while the lesson is proceeding. Advance lesson material should be provided, such as maps, charts, drawings, pictures, graphs, blackboard outlines, equipment for experiments to be performed under the direction of the broadcasting teacher, and specimens and objects being studied. The pupils should have their pencils and paper ready to take notes on most lessons.

The creation of the proper mental attitudes toward the radio lessons.—Children must learn how to listen and to cultivate the habit of disregarding extraneous noises. As a rule, they should have considerable practice in auditory perception. A child's power of sustained attention, particularly attention to words coming from an instrument and unsupported by the presence of the speaker, is not likely at first to be particularly great. Children should be

taught to be ear-minded as well as eye-minded. Otherwise, they will develop very poor attitudes toward the radio lessons.

The proper mental attitude toward the radio lessons involves far more than the ability to listen; it includes the desire to listen, the eagerness and the mental hunger which are essential in all forms of learning and instruction. The greatest factor in arousing this enthusiasm and curiosity is the teacher herself. The indifferent teacher who turns on the radio with a bored air and drops into her chair with a sigh which says, "Take it or leave it," does more harm than good. If the teacher is genuinely interested in the forthcoming radio lesson, she will find it easy to arouse the interest of the pupils.

Advance preparation of the subject matter.—If pupils' aid-to-study pamphlets are supplied by the broadcasting officials, the teacher will find it easy to follow the directions given and have the pupils prepare the advance work given in the pamphlets. If only a teacher's manual is supplied, the teacher will need to direct the pupils' preparation from the suggestions contained in the manual, along with other suggestions that she may consider appropriate.

An examination of the reports of schools which have made use of radio lessons indicates that teachers do about as many different things in preparing for broadcast lessons as they do in preparing lessons of their own. Some teachers place lesson outlines and guide questions on the blackboard, some dictate the same material, and others have the material mimeographed for their pupils. Sometimes pupils prepare papers in advance, from the outlines in the advance lesson material, and compare their statements with the broadcasting teacher's statements during the broadcast. A large number of teachers have class discussions in advance of the broadcast. In these discussions interesting points are anticipated, and background material is given. Pupils are frequently assigned outside readings and special points to consider during the broadcast. Pretests given just before the broadcast and repeated immediately after the broadcast enable the teacher to determine how much has been learned.

CLASS RECEPTION AND FOLLOW-UP WORK

Guided listening.—The alert classroom teacher will not find the broadcast period a time for rest and relaxation. Indeed, she will be extremely busy. It is her responsibility to see that the receiving set

is tuned in to reproduce the voice as clearly as if the speaker were in the room. Next, she will ascertain whether any of the pupils are having difficulty in hearing the lesson or in making proper use of the mechanical aids that are to be used in connection with it. Then, so far as it is within her power, she will see that the room is free from extraneous noises and conditions which might disturb listening. She will consider the learning atmosphere and attitude of the class. Besides these duties, she will follow the line of thought of the lesson and keep herself in readiness to aid the distant teacher whenever she is directed to do so and at other times when special assistance is necessary.

The attitude of the pupils during the radio lesson is just as important as their attitude when the instructor is present in the classroom. Unfortunately, however, a favorable attitude is not so easy to secure. The broadcasting teacher is handicapped by being unable either to adapt his presentation to local conditions or to impress the listeners with his own enthusiasm for the subject, except as it is reflected through his voice. The interest and enthusiasm of the local teacher can be of material assistance in the creation of the proper mental attitude for alert, intelligent listening.

The use of supplementary aids during the broadcast will be governed by the subject, the methods of the teacher at the microphone, and the ability of the listening class. Some broadcasting teachers present their material in such a way as to require the minimum use of classroom aids. Others call directly on the listening teachers to assist by demonstrating points referred to, by writing on the blackboard, or by referring to other aids that are usually available in the classroom. A third group of broadcasting teachers give their lessons in the form of directed pupil activity. The teaching of writing over the air, the direction of plays and gymnastics, and the instruction of pupils in a standard test are examples of directed pupil activity.

Classroom teachers will need to do considerable experimenting to determine the extent to which their pupils can profitably take notes during a broadcast. When pupils make notes, their attention may be focused on the notes to such an extent that they will miss the continuity of the broadcast. The rustling of papers and other noises made while taking notes may interfere with the listening

Follow-up work.—Review is essential to all good teaching, and this maxim applies with special force to broadcast lessons, where transient auditory impressions are the chief element. It will be necessary to revive and clarify these impressions with the aid of illustrations and other explanatory matter. The radio lesson should stimulate thinking and lead to further related activity.

It is the duty and the privilege of the local teacher to interpret and vitalize the radio material. The radio can only offer suggestions and point the way. Questions and exercises play an important part in the review. The questions should serve not only to recall the information given but also to suggest applications and deductions. Wherever possible, the pupils should be encouraged to write answers, to make outlines and diagrams, to prepare special reports, to hold frank and informal discussions, to supply illustrations, to ask questions, to comment, to match impressions, and to participate in any other exercises that are necessary to enable them to think the lesson out and to master its essentials as it applies to them in the furthering of their education. For the important thing in instruction by radio is not merely that facts are transmitted but rather that these facts become an intimate part of the pupil's inner life and being.

The classroom teacher has two additional responsibilities in the adaptation of the radio instruction to her pupils. She needs to adjust the review of the radio lesson and her own lesson plans in such a way that unnecessary duplication will be avoided and that the sum total of instruction will be a unified whole contributing to the commonly accepted objectives of education. It is absolutely essential that the programs mesh into the curriculum of the schools. She should also make prompt and frank reports to the broadcasting teacher, since the responsibility of meshing the radio lessons into the curriculum must be shared by him. School instruction by radio is a co-operative venture, in which the broadcasting teacher and the local teacher are partners. The field is new, and many problems remain to be solved. The very nature of broadcasting makes it necessary for the broadcasting teacher to depend on the invaluable counsel of the classroom teacher to determine the effectiveness of the radio lessons and to point the way to improvements.

WHAT IS PROGRESSIVE EDUCATION?

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The economic depression, with all its grief and devastation, can still be contemplated without a sense of total loss. The American people, swept out of their illusions of permanent prosperity with extraordinary violence, have been stimulated to do more downright thinking than they have done heretofore since the tragic cataclysm of 1914. And inasmuch as social organization is the central object of their present concern, with its vital implications for education, educators with the rest are deeply and inextricably involved. No longer is a discussion of fundamental educational assumptions likely to induce the slumber of indifference in the members of our profession; it is more likely to produce the wakefulness of a vigorous partisanship. Strange to say, a cure for insomnia has now become a cause.

Since about 1910, when the youthful science of education began to stand on its own legs and timidly shift for itself, the peace of the educational ménage has been increasingly menaced. It is the old story in which two mistresses essay domiciliary arrangements under the same roof; for the younger member of the household has recently blossomed into a fair and alluring maturity. The rivalry is between a philosophy of education self-styled "progressive" and a science of education confident that true progress comes through research rather than through speculation. This so-called "progressive" philosophy, not *the* philosophy of education but *a* philosophy, is a brand of pragmatism applied to education. Ten years or more before the science of education began to attract real attention, the progressive philosophy had achieved a following and a name. Its fundamental thesis was expressed in a formula not always fully understood. It was the formula of reconstruction. Education was regarded as the reconstruction of experience. Reorganization or transformation of experience may be used as equivalent expressions.

Such reconstruction was conceived in its first intent as an individual process and was regarded as consisting in the addition of new meanings to items of experience—new qualities, new values. It has been described as the product of intellectual activity; for making experience meaningful was regarded as the essence of the intellectual function. Since, however, the process of attaching meanings to experience is psychologically one of connection or association, the reconstruction under discussion can be adequately described as an impressive designation for the process of learning. Basically, it has not been shown to be anything other than this. The view, then, is consistent with the definition of intelligence as ability to learn, a well-established tradition in psychology.

Thus far, aside from the novelty of the terminology, the critics find little occasion for remonstrance. Numerous objections arise, however, to the progressives' interpretation of the function of intelligence, its place in life and in education. Among the objections the following deserve particular consideration:

1. The theory magnifies the importance of the intellectual function and disparages the function of habit in the control of human behavior.
2. It emphasizes the improvement of individual and social organization without due regard for the preservative function of education.
3. It exaggerates the instability and precariousness of experience and correspondingly underestimates the stability and uniformity reflected in scientific laws.
4. It exaggerates, therefore, the need for intellection and correspondingly magnifies its office in the educational program.
5. It features intellectual values to the neglect of emotional values in experience.
6. Finally, it supports the dubious doctrine that the function of intelligence is creation rather than discovery.

The point of divergence between the progressives and many who are not committed to their view can be most satisfactorily located in the interpretation of the function of intelligence. In the philosophy under discussion intelligence in pompous soliloquy struts in the spotlight of the educational stage as if it were the be-all and the

end-all in the drama of education. The whole educational program is wrapped up in training intelligence, in developing the ability to solve problems, in improving the process of reflective thought. Meanwhile, habit and routine, skill and mechanism are everywhere condemned as means in the control of behavior. It matters not that habit is a thoroughly respectable function, the gift of evolution, biologically selected because of its utility in organic adjustment. It matters not that habit explains more today in the performance of men than does the reasoning process. It matters not that our hard-won civilization is a fabric of customs, laws, conventions, manners—institutions that live in habituation. Mankind is obviously to be lifted to some empyrean level of existence, where reason will be supreme and habit will be relegated to the oblivion of outer darkness.

Analysis of the progressive theory at this and at other points compels one to conclude that by no means all its tenets are logical deductions from the pragmatic doctrine. It is suggestive that William James, the father of pragmatism, strenuously advocated the mechanization of as many useful actions as possible, and largely for the purpose of freeing the function of intelligence for its own proper work.

Disparagement of the preservative function of education and an ill-concealed contempt for the uniformities of nature as reflected in scientific laws are both of a piece with the condemnation of habit as a guide to action; for habit is biological conformity to physical uniformity. Man is presumed to live in a precarious and unstable world, even in periods of prosperity. The mountains of the world are here today, and tomorrow they disappear like the mist of the morning. In a universe so insecure and hazardous the circumspection of the intellect would naturally be the hope of salvation. But to common sense and modern realism the world is of a somewhat different sort. One may admit with the pragmatist that all scientific measurements are approximations and that all truth is tentative without rushing to the extremes of an uncertain and subjective psychologism. The mind of man is indeed fallible, but eternal being and the order of nature, as Professor Ralph Barton Perry remarks, are not implicated in its vicissitudes.

The theory meets with resistance in another quarter. Friends of

artistic interests regard it as too exclusively intellectualistic. They feel that the creativity of the intellectuals is magnified and that of the artists minimized. They contend it is not enough to argue that the activity known as emotional is a phase of activity known as intellectual and that thinking is impregnated with emotion. The fact is that artists are not made merely by exercising their logical processes or by solving mathematical problems. They are made by a type of experience that is as characteristically aesthetic as intellection is characteristically logical. To argue thus is not to compartmentalize the intellect and the emotions. It is a matter of emphasis.

We come now to that singular conception, the creativity of consciousness. Knowledge, we are told, is not merely an intentional relation, the intentional reference of an idea to an object. It is not merely a means of exploration and discovery. It actually makes a difference in existences. The world is believed to be in transformation, and knowledge is regarded as the most important mode of its modification. Differences in things are believed to be made by the act of knowing. This belief in the creativity of intelligence has a distinctly Bergsonian flavor and helps one to appreciate the progressives' partiality for such terms as "reconstruction" and "transformation." The topic is too complicated and technical for adequate treatment in a few paragraphs of an article; it must be left to the battling epistemologists. To one who identifies truth and reality and defines truth as a human construct with all the relativity therein implied, the position sketched is tenable enough. To one, however, who with William James and modern realism holds that reality *is*, while truth is what we *say* it is, the view is unacceptable.

Making due allowance for the fact that thought is a part of reality, the opponents of the progressive view make a sharp distinction between modification of ideas and modification of reality. Reorganization of mental content is one thing; reorganization of the nature of the universe is quite another. Recall the parable of the three blind men. To him who grasped the elephant's tail, the animal seemed very like a rope; to him who laid his hands against the creature's towering side, it seemed very like a wall; to him who embraced a leg, it resembled a tree. The ideas of these observers will undergo transformation as their investigation proceeds, but the ob-

ject remains quite unaffected. That is, things are and are experienced without owing their nature to that circumstance. If so, one can safely ignore a program of education built on the illusory promise of subjectivism, abandon the hope of playing hob with reality, and join with the natural scientist in a program designed to discover the stubborn nature of things and adjust thereto.

Until very recently progressives have been content to build their pedagogic pagoda on the training of intelligence. The program has been criticized as inadequate in that the goal was restricted to a method. Like the liberalism of which it was a part, the theory was credited with good intentions but scored for the indefiniteness, the contentless character, of its aim. The prime objective of the schools, as stated earlier, was to be training in ability to think, training in the *method* of intelligent approach to the solution of problems. As a consequence, presumably, of the current economic unpleasantness, this group has been inspired to supplement its program with a pattern for a common culture. Schools that follow in its footsteps will now be supplied with the outlines of a preferred social order. In other words, the apostles of freedom and open-mindedness, the bitter foes of dogmatism and indoctrination, are now ready to indoctrinate.

The reader may be assured that this flight from liberty in no way embarrasses those who have strenuously advocated a degree of indoctrination as an indispensable feature of the plan of education—indoctrination with the laws of science, indoctrination with the institutions of language and number, of music and art, all the best of all the wealth of social tradition upon which the future of the nation must be built. The confidence in liberty shown by the scientific group has always been restrained. They have steadily voiced the objection that the program of the progressives has been surfeited with liberty. Of liberty they ask: What is its use, when purged of its abuse? In answer they stress its indispensable value as an incentive to individual creativity, the *sine qua non* of social advance. Their doctrine, like that of the political party now in power and like that of the vast majority of the American people, is controlled individualism. They therefore acclaim this happy conversion of the progressives in the hot fires of a scorching depression and welcome their

adoption of a policy of indoctrination. Now what of the specifics in the preferred social order?

The particular nature of the new platform is indicated by the following planks: (1) Abolish competitive individualism. (2) Reorganize the economic system. (3) Provide occupational, unemployment, old-age, and maternity insurance. (4) Repudiate the doctrine of *laissez faire* in behalf of the principle of general social control. (5) Revise the conception of patriotism. (6) Reconstruct society continuously by intelligent experimentation.

Shifts of public sentiment are like the motions of a vast pendulum. Our revolutionary forbears swung away from the authority of monarchs; their descendants swing back toward authority of another type. In the eighteenth century liberty was sought as an unalloyed blessing; in the progressives' platform it is rejected as an economic curse.

The educational radicals are revolutionary. They are bartering liberty for equality. Their method is not sanely experimental; it is rashly speculative. Their solution of the social problem has no necessary connection with the philosophy of pragmatism. It is socialism. Their opponents, on the other hand, are evolutionary. They refuse to desert the company of Thomas Jefferson and Theodore Roosevelt for that of Karl Marx. They feel no impulsion to turn their backs completely on the individualistic principle upon which America was founded. The motto of liberty on our banners and our coins evokes no apology from them. The Greeks had a word for it: "Nothing too much." The controlled individualism for which the scientific group of educators stand is designed to preserve the precious values of freedom as well as to achieve the precious values of social control. In short, they decline to become depression drunk and throw out the baby with the bath.

Finally, in the new enlightenment of progressivism the schools are admonished to inculcate the outlines of the preferred social order. What an enticing challenge to school administration! Who will finance this astonishing project? The state that crumbles from the spread of subversive doctrine? Not for long.

The power to determine curriculums resides in the state, and this power will and should be exercised—in the American as in the Soviet

Union. We are standing for the orderly process of legislation, not disloyalty or sabotage. Moreover, our states are moving steadily toward the reforms indicated by objective investigations. Science has won their admiration and their confidence. Our democracy is an endless experiment in the gradual adjustment of social organization to the needs of the people. It can move toward the left by the gradual absorption of socialistic measures. Indeed, it is now doing so. But who knows how far it needs to go? Experiment alone can tell.

The program of educational progressivism should be objectively evaluated. In its present form it has the status merely of a startling hypothesis. It has not yet demonstrated its superiority over the theory which it is designed to displace. It still lacks scientific verification. As yet, it is simply an invitation to take a leap in the dark.

HOMOGENEOUS GROUPING OF RETARDED PUPILS

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One of the difficulties involved in the homogeneous grouping of pupils is to discover a basis of classification which will insure that pupils are homogeneously grouped for instruction in more than one subject. For example, pupils of the same mental age and the same reading achievement may vary a great deal in achievement in arithmetic. This variation may, in fact, be so great as to make a regrouping necessary for purposes of instruction in arithmetic. This article reports a study of the arithmetic and the reading achievement of a group of retarded pupils made with a view of ascertaining the extent to which differences in achievement in the two subjects made homogeneous grouping difficult.

From the files of the Department of Ungraded Classes in New York City, the records of 2,225 children were selected whose mental ages on the Binet test ranged from six years and no months to eight years and eleven months. The majority of these children had been recommended for examination because they were retarded in school progress. Many of them had a total or a partial reading disability, as shown by tests of educational achievement. They were grouped according to their mental ages as follows:

Group	Mental Age in Years and Months
I	6-0 to 6-5
II	6-6 to 6-11
III	7-0 to 7-5
IV	7-6 to 7-11
V	8-0 to 8-5
VI	8-6 to 8-11

In Table I the achievement in reading of each group is compared with the achievement in arithmetic. For each group the range of grade achievement in arithmetic is greater than the range of achievement in reading. The range in arithmetic also becomes greater as

the mental age increases, with the exception of the last two groups where the ranges are equal. The median achievement in arithmetic increases from one group to another by regular increments. With the exception of the last group, normal progress was made in this subject if consideration is given the mental ages of the pupils. The median grade achievement in reading is identical for the first three

TABLE I
DISTRIBUTION OF PUPILS IN SIX MENTAL-AGE GROUPS ACCORDING TO
ACHIEVEMENT IN READING AND ARITHMETIC

GRADE ACHIEVE- MENT	NUMBER OF PUPILS											
	Group I		Group II		Group III		Group IV		Group V		Group VI	
	Read- ing	Arith- metic	Read- ing	Arith- metic	Read- ing	Arith- metic	Read- ing	Arith- metic	Read- ing	Arith- metic	Read- ing	Arith- metic
VB . . .	0	0	0	0	0	0	0	0	0	4	0	7
VA . . .	0	0	0	0	0	0	0	8	0	9	0	6
IVB . . .	0	0	0	0	0	0	0	17	0	45	0	30
IVA . . .	0	0	0	0	0	0	0	26	10	73	13	40
IIIB . . .	0	0	0	5	0	24	6	57	24	79	38	51
IIIA . . .	0	0	0	14	0	43	35	52	79	69	53	52
IIB . . .	0	9	10	41	44	86	64	114	126	77	65	57
IIA . . .	8	34	29	113	55	130	81	125	44	63	33	27
IB . . .	14	34	47	52	83	47	96	44	55	12	20	10
IA . . .	135	42	210	62	197	37	179	24	102	9	63	5
Less than IA . . .	68	106	79	88	36	39	24	18	0	0	0	0
Total . .	225	225	375	375	415	415	485	485	440	440	285	285
Median achievement .	IA	IA	IA	IB	IA	IIA	IB	IIB	IIB	IIIA	IIB	IIIA

groups (IA) before an improvement is shown. In every group except the first, the median reading achievement is one or two terms below the median achievement in arithmetic. (In New York City Grade IA is low-first grade, and Grade IB is high-first grade, and so on.)

The records for each group of the same mental age and the same reading achievement were further divided according to achievement in arithmetic. In this way each of the smaller groups had two constant elements (mental age and reading achievement) and one vari-

able element (arithmetic achievement). The median arithmetic achievement for each group of the same mental age and the same achievement in reading is shown in Table II. The table shows that

TABLE II

MEDIAN GRADE ACHIEVEMENT IN ARITHMETIC OF THOSE PUPILS IN EACH OF SIX MENTAL-AGE GROUPS WHOSE GRADE ACHIEVEMENTS IN READING WERE IDENTICAL

GRADE ACHIEVEMENT IN READING	GROUP I		GROUP II		GROUP III		GROUP IV		GROUP V		GROUP VI	
	No. of Pupils	Grade Achievement in Arithmetic	No. of Pupils	Grade Achievement in Arithmetic	No. of Pupils	Grade Achievement in Arithmetic	No. of Pupils	Grade Achievement in Arithmetic	No. of Pupils	Grade Achievement in Arithmetic	No. of Pupils	Grade Achievement in Arithmetic
IV A . . .	0	0	0	0	0	0	0	0	5	IV A	0	IV A
III B . . .	0	0	0	0	0	0	5	III B	6	IV A	6	IV A
III A . . .	0	0	0	0	0	0	7	III B	7	III B	8	III B
II B . . .	0	0	5	II B	7	III A	8	III B	9	III B	9	III B
II A . . .	4	II A	5	II B	8	II B	10	III A	9	III A	10	III A
I D . . .	5	I D	7	II A	8	II A	10	II B	8	II B	7	II B
I A . . .	5	I A	7	I D	7	II A	9	II A	8	II B	8	II B
Less than I A . .	5	0	5	I A	6	I B	6	II A	0	0	0	0

TABLE III

TEACHING DIFFICULTY IN ARITHMETIC PRESENTED BY CHILDREN IN SIX MENTAL-AGE GROUPS GRADED HOMOGENEOUSLY ACCORDING TO READING ACHIEVEMENT

Group	CHILDREN PRESENTING DIFFICULTY		AVERAGE NUMBER OF UNITS OF DIFFICULTY
	Number	Per Cent	
I	42	18.7	1.3
II	142	37.9	1.5
III	216	52.0	1.8
IV	283	58.4	1.8
V	279	63.4	2.1
VI	160	56.1	2.2
Total	1,122	50.4	1.8

four children with a mental age between six years and six years and five months and with a grade achievement in reading of II A also had a median arithmetic achievement of II A, and so on. The relation of the achievement in the two subjects is consistent throughout

the table; that is, children of the same mental age and the same reading achievement had a median achievement in arithmetic equal to, or one to three semesters higher than, their median achievement in reading.

If it were possible for a school to organize special groups for children with a reading disability and if an extensive program of testing had furnished information parallel to that in this study, the question arises: Would it be practicable to teach arithmetic to these children when grouped homogeneously according to reading achievement? Let it be assumed that pupils whose arithmetic achievement varied by only one term from their reading achievement would not present teaching difficulty in arithmetic. If the arithmetic achievement were two terms higher than the reading achievement, there would be a teaching difficulty of one unit; if three terms higher, two units; etc. Table III gives a summary of the number and the percentage of children in each mental-age group presenting a teaching difficulty in arithmetic, together with the average amount of teaching difficulty for each group. The amount of teaching difficulty in arithmetic increased directly with mental age because the average progress in reading achievement was retarded while that in arithmetic was nearly normal.

The arithmetic achievement of 50 per cent of the entire group exceeded their reading achievement from two to six terms. Their average teaching difficulty was approximately two units. Because of the wide variation in their achievement in the two subjects, it would be advisable to reclassify these pupils for their instruction in arithmetic. In other words, 50 per cent of a group homogeneously graded according to mental age and reading achievement would be so heterogeneous as to arithmetic achievement that their instruction as a group in arithmetic would present serious teaching difficulty.

A SURVEY OF ADJUSTMENT DIFFICULTIES IN CHILDREN AND YOUTH DRAWN FROM THE NORMAL POPULATION

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The brief study which follows was made by the writer during the course of his activity as instructor of the child-study classes of the Norfolk Federation of Home and School Leagues. A questionnaire was constructed for the purpose of securing statements from mothers with respect to the characteristics of their children. The questions

TABLE I
DISTRIBUTION OF 211 FAMILIES ACCORDING TO NUM-
BER OF CHILDREN IN THE FAMILY

Number of Children in Family	Number of Families	Number of Children
1.	51	51
2.	87	174
3.	43	129
4.	17	68
5.	6	30
6.	4	24
7.	1	7
8.	2	16
Total...	211	499

were grouped under four headings: (1) personality traits suggesting conflicts, (2) food fads and antipathies, (3) problems affecting sleep, and (4) fears.

Although more than 800 questionnaires were distributed and fully explained, only 211 were returned properly filled out. The total number of children reported on was 499, of whom 257 were boys and 235 were girls. On seven questionnaires the sex of the child was not specified. The average number of children to a family was 2.36. The returns received from the questionnaires yielded valuable in-

formation which gave a fairly comprehensive picture of the mental, emotional, and social reactions of the children whose mothers replied. The distribution of the families according to the number of children in a family is given in Table I. The distribution of the children according to ages is shown in Table II.

Since a large majority of the parents with a single child are comparatively young and will in many cases probably have more children, it is obviously difficult to select from this group true cases that

TABLE II
DISTRIBUTION, ACCORDING TO AGE, OF 257 BOYS AND 235 GIRLS
FOR WHOM TRAIT REPORTS WERE MADE

Age in Years	Number of Boys	Number of Girls	Age in Years	Number of Boys	Number of Girls
Less than 1	1	2	14	14	6
1	3	2	15	4	5
2	5	9	16	5	4
3	8	11	17	4	1
4	10	12	18	4	2
5	16	17	19	3	1
6	20	17	20	2	2
7	26	22	21	0	1
8	28	25	22	0	1
9	25	26	23	1	0
10	18	19	24	0	1
11	20	19	Not given	1	6
12	21	13			
13	9	11	Total	257	235

represent the "only-child" problem. This problem has been variously stated by psychologists, but it may be epitomized as the child's inability fully to throw off the state of infantile dependency. An examination of the returns from families with a single child yields significant results, as indicated in Table III, which shows the traits reported for the "only" child.

The traits reported for the entire group of children are shown in Table IV. The writer impressed on the mothers the importance of differentiating carefully between temper tantrums and emotional outbreaks. The former were limited to the habit of exhibiting rage when the child's desire was thwarted. The latter applied to children who manifested emotional instability when required to meet situations that deviated from the daily routine.

An analysis of Table IV shows that the following traits were more prevalent among the boys than among the girls: stubbornness, disobedience, temper tantrums, fighting, selfishness, laziness, untruthfulness, indifference, stuttering or lisping, lack of interest in childhood activities, and blinking eyes or shrugging shoulders. The fol-

TABLE III
NUMBER AND PERCENTAGE OF CHILDREN IN FAMILIES WITH ONLY ONE
CHILD REPORTED BY MOTHERS AS EXHIBITING EACH OF
TWENTY PERSONALITY TRAITS

TRAIT	Boys (29)		Girls (22)		TOTAL (51)	
	Number	Per Cent	Number	Per Cent	Number	Per Cent
1. Nervousness	14	48.3	9	40.9	23	45.1
2. Disobedience,	14	48.3	5	22.7	19	37.3
3. Stubbornness,	10	34.5	8	36.4	18	35.3
4. Sensitiveness,	9	31.0	8	36.4	17	33.3
5. Temper tantrums,	10	34.5	4	18.2	14	27.5
6. Timidity or shyness,	5	17.2	8	36.4	13	25.5
7. Biting nails,	6	20.7	4	18.2	10	19.6
8. Selfishness,	4	13.8	6	27.3	10	19.6
9. Laziness,	7	24.1	2	9.1	9	17.6
10. Playing poorly with children,	4	13.8	5	22.7	9	17.6
11. Emotional outbreaks,	4	13.8	4	18.2	8	15.7
12. Indifference or sluggishness,	5	17.2	2	9.1	7	13.7
13. Desire to be alone,	5	17.2	1	4.5	6	11.8
14. Given to fighting	4	13.8	2	9.1	6	11.8
15. Left-handedness,	5	17.2	1	4.5	6	11.8
16. Conceit,	3	10.3	2	9.1	5	9.8
17. Blinking eyes or shrugging shoulders,	3	10.3	1	4.5	4	7.8
18. Lack of interest in childhood activities,	3	10.3	1	4.5	4	7.8
19. Untruthfulness or deceitfulness,	2	6.9	2	9.1	4	7.8
20. Stuttering or lisping,	2	6.9	0	0.0	2	3.9

lowing occurred more frequently among the girls: nervousness, sensitiveness, timidity or shyness, emotional outbreaks, biting nails, the desire to be alone, conceit, and playing poorly with other children. The percentages of left-handedness were practically the same among the boys and the girls. Significant differences apparently exist between the boys as a group and the girls as a group. The number of boys with extrovert traits—aggressiveness, fighting, gregariousness,

and attention governed by objective conditions—exceeded the number of girls possessing these traits. On the other hand, the number of boys also exceeded the number of girls in some apparently introvert traits, such as indifference, lack of interest in normal childhood activities, and laziness (assuming that some of the children disig-

TABLE IV

NUMBER AND PERCENTAGE OF ENTIRE GROUP OF BOYS AND GIRLS REPORTED BY MOTHERS AS EXHIBITING EACH OF TWENTY PERSONALITY TRAITS

TRAIT	BOYS (257)		GIRLS (235)		TOTAL (492)	
	Number	Per Cent	Number	Per Cent	Number	Per Cent
1. Nervousness	79	30.7	83	35.3	162	32.9
2. Sensitiveness	67	26.1	89	37.9	156	31.7
3. Stubbornness	81	31.5	64	27.2	145	29.5
4. Disobedience	82	31.9	50	21.3	132	26.8
5. Timidity or shyness . . .	45	17.5	61	26.0	106	21.5
6. Temper tantrums	54	21.0	43	18.3	97	19.7
7. Emotional outbreaks . . .	39	15.2	47	20.0	86	17.5
8. Biting nails	43	16.7	42	17.9	85	17.3
9. Given to fighting	53	20.6	11	4.7	64	13.0
10. Selfishness	35	13.6	27	11.5	62	12.6
11. Laziness	36	14.0	25	10.6	61	12.4
12. Desire to be alone	23	8.9	26	11.1	49	10.0
13. Untruthfulness or deceitfulness	27	10.5	19	8.1	46	9.3
14. Indifference or sluggishness	25	9.7	12	5.1	37	7.5
15. Left-handedness	18	7.0	16	6.8	34	6.9
16. Conceit	14	5.4	16	6.8	30	6.1
17. Playing poorly with children	13	5.1	16	6.8	29	5.9
18. Blinking eyes or shrugging shoulders	17	6.6	11	4.7	28	5.7
19. Stuttering or lisping . . .	18	7.0	6	2.6	24	4.9
20. Lack of interest in childhood activities	13	5.1	3	1.3	16	3.3

nated by their parents as lazy were in reality introverted daydreamers). In view of these conflicting findings, this study does not yield definite conclusions regarding personality organization in terms of extroversion and introversion. It is, however, noteworthy that in the case of introvert traits like sensitiveness, timidity, nervousness, and the desire to be alone, the number of girls exceeded the number of boys.

A majority of the mothers failed to answer the questions concerning food fads and antipathies. Most of the eighty replies merely gave "Yes" or "No" or enumerated the foods which the children liked or disliked. A number of the mothers complained that their children did not eat enough, but not a single mother stated that her children ate too much.

TABLE V
PROBLEMS AFFECTING SLEEP REPORTED IN FAMILIES WITH ONE CHILD
AND IN FAMILIES WITH MORE THAN ONE CHILD

PROBLEM	BOYS		GIRLS	
	Number	Per Cent	Number	Per Cent
Families with One Child				
Number of children reported on . . .	(29)	.....	(22)	.. . . .
Talking or crying out in sleep . . .	12	41.4	10	45.5
Dreaming frequently	7	24.1	8	36.4
Walking in sleep	2	6.9	0	0.0
Not sleeping well	2	6.9	1	4.5
Total	23	.....	19	.....
Families with More than One Child				
Number of children reported on . . .	(228)	.....	(213)	.. . . .
Talking or crying out in sleep . . .	44	19.3	42	19.7
Dreaming frequently	32	14.0	41	19.2
Walking in sleep	6	2.6	6	2.8
Not sleeping well	4	1.8	3	1.4
Total	86	.....	92	.....

The problems of sleep are set forth in Table V. This table shows that the girls dreamed more frequently than did the boys both in the families with only one child and in families with more than one child. Talking or crying out in sleep was fairly common among the boys and the girls, but in the "only-child" families the percentage of girls exhibiting this problem was greater than the corresponding percentage of boys.

The data on fears appear in Table VI. Many mothers ignored this

phase of the questionnaire. It appears, therefore, that the reported fears represent only a partial list of those that actually exist. However, a sufficient number of returns were received to indicate that fears were responsible, at least in part, for the adjustment difficulties of some of the children. In the "only-child" families the girls have almost three times as many fears as have the boys. This ratio is smaller among the children in families containing more than one child. In families of more than one child the girls have almost twice as many fears as the boys. Among the boys in families with more than one child, dark places, thunder and lightning, and imaginary things induced the majority of the fears. Among the girls, animals, dark places, thunder and lightning, noises, and imaginary things were the causes of the majority of the fears. It would have been helpful if the parents had elaborated on what they meant by "imaginary things." In many cases darkness was probably confused with fear of dark places; what the parents had in mind was, perhaps, that the children were afraid to sleep in a dark room. The animal most often feared was the dog. A number of mothers attributed this fear to a fright episode in earlier life. One mother frankly stated that her child's fear of dogs was traceable to the mother's threat to discipline the child "by calling in the wild dog." It would have been helpful, too, if parents had explained what they meant when they wrote that their children were afraid of high places or of closed places. An adequate explanation might have indicated whether any of the sixteen cases reported were symptomatic of incipient acrophobia or claustrophobia.

SUMMARY AND CONCLUSIONS

The investigation shows that approximately one hundred children of preschool age, an equal number of children of school age, and more than a score above school age (of a total of 499 children) seemed to present adjustment difficulties. Whether the root of the difficulty lay in the mother, in the child, or in both and whether it was to be traced to hereditary factors or to environmental influences cannot be determined from the available data. It is clear, however, that the existence of conflicts among such a large proportion of the children constitutes a grave challenge, not only to parents and teachers, but also to all men and women dedicated to the development of a happier

TABLE VI
NUMBER AND PERCENTAGE OF CHILDREN IN FAMILIES WITH ONE CHILD AND
IN FAMILIES WITH MORE THAN ONE CHILD REPORTED BY THEIR
MOTHERS AS EXHIBITING FEARS

FEAR OF—	Boys		Girls	
	Number	Per Cent	Number	Per Cent
Families with One Child				
Number of children reported on	(29)	.. .. .	(22)	.. .. .
Animals.	0	0.0	7	31.8
Dark places.	2	6.9	6	27.3
Thunder and lightning.	2	6.9	5	22.7
Trains or boats	1	3.5	1	4.5
Horses	0	0.0	2	9.1
Doctors.	3	10.3	2	9.1
Teachers.	1	3.5	0	0.0
Noises.	1	3.5	3	13.6
Imaginary things.	0	0.0	3	13.6
High places.	1	3.5	0	0.0
Closed places	3	10.3	3	13.6
Strangers.	0	0.0	2	9.1
Fire engines.	0	0.0	3	13.6
Total.	14	.. .. .	37	.. .. .
Families with More than One Child				
Number of children reported on	(228)	.. .. .	(213)	.. .. .
Animals.	4	1.8	25	11.7
Dark places.	39	17.1	49	23.0
Thunder and lightning.	16	7.0	26	12.2
Trains or boats.	0	0.0	2	0.9
Horses.	0	0.0	4	1.9
Doctors.	4	1.8	9	4.2
Teachers.	0	0.0	2	0.9
Noises.	4	1.8	15	7.0
Imaginary things.	14	6.1	18	8.5
High places.	1	0.4	4	1.9
Closed places	2	0.9	2	0.9
Strangers.	2	0.9	6	2.8
Fire engines.	0	0.0	4	1.9
Insects.	0	0.0	3	1.4
Total	86	.. .. .	169	.. .. .

and healthier childhood. If the results of this study of children and youth drawn from the normal population mirror a situation existing among the normal childhood population in general, there is urgent need for increased activity throughout the land in stressing the importance of mental hygiene.

The present study, based on the data supplied by parents, leads to the following conclusions.

1. This survey of children and youth drawn from the normal population revealed numerous adjustment difficulties.
2. Parents should be brought to realize that the trial-and-error method of training children is fraught with grave risks to childhood.
3. Effective parent education should be instituted on a wider scale than that which now exists.
4. Child-welfare knowledge should be disseminated among parents. The findings of the last White House Conference on Child Health and Protection and the conclusions of the various state conferences on childhood and youth should be brought to the attention of every community, every organization, and every family with children.
5. Home and school leagues, parent-teachers' associations, patrons' leagues, and child-study groups should sponsor periodical surveys designed to catalogue the behavior problems of children, with the view of employing specialists in mental hygiene to aid the parents in solving these problems.

SELECTED REFERENCES ON ELEMENTARY- SCHOOL INSTRUCTION

II. THE SUBJECT FIELDS

This list of references is the second in a series of three lists relating to instruction at the elementary-school level. The previous list, appearing in the September issue of the *Elementary School Journal*, contained items on the curriculum, methods of teaching and study, and supervision. The last two lists in the series contain items on these same major aspects of instruction, but the items are grouped by subject fields.

READING¹

WILLIAM S. GRAY

299. ADAMS, EDITH E. *A Guide to Children's Literature in the Early Elementary Grades*. Ann Arbor, Michigan: George Wahr, 1933 (revised). Pp. 158.

Discusses various types of literature for young children and presents selected references to each type.

300. ADAMS, ELWOOD. "The Extent of Library Reading in the Junior High School," *School Review*, XLI (May, 1933), 375-78.

Reports the results of a survey of the library equipment and personnel in twelve junior high schools and the average number of books read by pupils in one semester.

301. BIRDSALL, AGNES. "Mental Habits in Reading," *Elementary School Journal*, XXXII (May, 1932), 681-90.

Describes the methods of diagnosis used in determining the mental habits of good and poor readers and discusses the methods and results of remedial treatment.

302. BONAR, HUGR S. "Systematic versus Incidental Training in Reading," *Elementary English Review*, X (April, 1933), 90-94, 112.

Summarizes the results of studies bearing on the value of systematic and incidental guidance in reading.

¹ See also Items 55, 65, 66, and 69 in the list of selected references appearing in the February, 1933, number of the *School Review*; Item 305 in the May, 1933, number of the *School Review*; and Items 256 and 268 in the September, 1933, number of the *Elementary School Journal*.

303. CARROLL, HERBERT A. "Influence of the Sex Factor upon Appreciation of Literature," *School and Society*, XXXVII (April 8, 1933), 468-72.
Compares the scores made by seven hundred boys and seven hundred girls on the Carroll Prose Appreciation Test.
304. *Children's Reading: A Study of Voluntary Reading of Boys and Girls in the United States*. Report of the Subcommittee on Reading, Carl H. Milam, Chairman. Section III, Education and Training, White House Conference on Child Health and Protection. New York: Century Co., 1932. Pp. xii+90.
Summarizes the results of studies relating to children's interests in reading and presents a series of helpful recommendations for improving the reading interests and tastes of children.
305. COX, ROSE MARIAN. "The Development of Score Cards for Evaluating Silent Reading Lessons in the Intermediate Grades," *Teachers College Journal*, III (July, 1932), 301-22.
Describes the derivation and the validity of score cards for silent-reading lessons.
306. DOLCH, EDWARD W. "Value of Reading Practice," *Elementary English Review*, IX (April, 1932), 99-101.
Emphasizes the value of overlapping reading vocabularies in establishing fluent reading habits.
307. DRANSFIELD, J. EDGAR. *Administration of Enrichment to Superior Children in the Typical Classroom*. Teachers College Contributions to Education, No. 558. New York: Teachers College, Columbia University, 1933. Pp. vi+108.
Reports the results of a study in Grades III, V, and VII to determine the efficiency of "self-administering units of instruction."
308. GATES, ARTHUR I., and BENNETT, CHESTER C. *Reversal Tendencies in Reading: Causes, Diagnosis, Prevention and Correction*. New York: Teachers College, Columbia University, 1933. Pp. ii+34.
Presents the results of studies of reversal tendencies in reading among second-, third-, and fourth-grade pupils.
309. GRAY, WILLIAM S. "Fundamentals in Silent Reading," *Elementary English Review*, IX (April, 1932), 95-98.
Describes briefly the important steps involved in the act of reading and discusses three levels at which silent reading occurs.
310. GRAY, WILLIAM S. "Summary of Reading Investigations (July 1, 1931, to June 30, 1932)," *Journal of Educational Research*, XXVI (February, 1933), 401-24.
Presents a bibliography of 118 investigations relating to reading and a brief summary of significant findings and conclusions.

311. HARDWICK, ROSE S. "Types of Reading Disability," *Childhood Education*, VIII (April, 1932), 423-27.
Presents case studies which illustrate the necessity for the removal of defects, for a favorable emotional atmosphere, and for intensive study of individual needs.
312. HILLIARD, GEORGE H. "Extensive Library Reading versus Specific Drill as an Aid in Improving Certain Reading Abilities," *Educational News Bulletin*, II (June, 1932), 6-12. Kalamazoo, Michigan: Western State Teachers College.
Describes the methods used and the results secured in an eight-week experiment with fifth-grade pupils in six public schools.
313. HOBSON, CLOY S., and PARKE, WALLACE E. "Using a Group Test To Identify Types of Reading Difficulty," *Elementary School Journal*, XXXII (May, 1932), 666-75.
Compares the scores of pupils in Grades III-VI, inclusive, on the Monroe Standardized Silent Reading Test when given (1) as prescribed, (2) without a time limit, and (3) orally.
314. HOLMES, ALFRED. *Voluntary Reading of Toronto Public School Pupils: A Quantitative and Qualitative Study*. Toronto, Ontario: University of Toronto, 1932. Pp. 24.
Summarizes reports of the quantity and the quality of books read voluntarily by pupils in Grades V-VIII in four Toronto public schools.
315. JORGENSEN, A. N. "Use of Diagnostic Tests in Teaching Silent Reading," *Elementary English Review*, IX (April, 1932), 86-88, 107.
Lists some of the skills necessary in silent reading and suggests several tests useful for diagnosing these skills.
316. LEE, DORRIS MAY. *The Importance of Reading for Achieving in Grades Four, Five, and Six*. Teachers College Contributions to Education, No. 556. New York: Teachers College, Columbia University, 1933. Pp. viii+64.
Reports the results of a study to determine "to what extent reading ability correlates with the difference between pupils' actual achievement and the achievement that might be expected of them in the light of their mental ability."
317. LIMB, G., and PARKER, H. T. "An Experiment in the Teaching of Reading Comprehension," *Australian Educational Studies* (First Series), pp. 30-51. Educational Research Series, No. 14. Melbourne, Australia. Melbourne University Press, 1932.
Describes the methods used and the results attained in an experiment to determine the value of directed practice in comprehension in Grades III-VII, inclusive.
318. MANWILLER, C. E. "Growth in Reading in the Pittsburgh Schools, Grades 4-8," *Pittsburgh Schools*, VII (November-December, 1932), 116-27.
Reports the growth in reading among pupils in Grades IV-VIII, inclusive, resulting from a definite program of remedial instruction followed for one year

319. MONROE, WALTER S., and ENGELHART, MAX D. "The Effectiveness of Systematic Instruction in Reading Verbal Problems in Arithmetic," *Elementary School Journal*, XXXIII (January, 1933), 377-81.
Summarizes the results of an experiment in Grade V to determine the value of specific training in reading verbal problems.
320. PARKER, CLAUDIA, and WATERBURY, EVELINE. "Reading Disability," *Educational Method*, XII (April, 1933), 411-19.
Reports a series of remedial cases in reading, possible causes of these disabilities, and suggested remedies.
321. PRESSEY, L. C., and MOORE, W. S. "The Growth of Mathematical Vocabulary from the Third Grade through High School," *School Review*, XL (June, 1932), 449-54.
Presents the results of tests on the meaning of the vocabulary in arithmetic, algebra, and geometry to determine growth through the grades.
322. SCHEIDEMANN, NORMA V., and SMITH, MARGARET S. "A Survey of an Opportunity Room for Gifted Children," *Journal of Educational Psychology*, XXIV (May, 1933), 392-95.
Presents data showing the effect of the guidance provided in an opportunity room for pupils classified in Grades IV-VI, inclusive, according to their achievement in reading and other subjects.
323. SELZER, CHARLES A. *Lateral Dominance and Visual Fusion: Their Application to Difficulties in Reading, Writing, Spelling, and Speech*. Harvard Monographs in Education, No. 12. Cambridge, Massachusetts: Harvard University Press, 1933. Pp. xvi+120.
Summarizes related investigations and presents the results of a series of elaborate studies of lateral dominance and visual fusion.
324. SHUTTLEWORTH, FRANK K. *A Critical Study of Two Lists of Best Books for Children*. Genetic Psychology Monographs, Vol. XI, No. 4. Worcester, Massachusetts: Clark University Press, 1932. Pp. 247-320.
Compares the *Winnetka Graded Book List* and Starbuck's *Guide to Literature for Character Training* with respect to grade placement and the relative worth and interest value of the books included.
325. SMITH, NILA BANTON. "Successive Emphases in American Reading Instruction," *Teachers College Record*, XXXIV (December, 1932), 188-203.
Traces the historical development of reading instruction in America, identifying various important periods of emphasis.
326. STEVENS, B. A. "Problem Solving in Arithmetic," *Journal of Educational Research*, XXV (April-May, 1932), 253-60.
Discusses the interrelations of ability in silent reading, power in the fundamentals of arithmetic, power in solving reasoning problems in arithmetic, and general intelligence of pupils in Grades III-VII.

327. TINKER, MILES A. "Diagnostic and Remedial Reading," *Elementary School Journal*, XXXIII (December, 1932, and January, 1933), 293-306, 346-57.
Presents a bibliography of 180 references relating to diagnosis and remedial teaching and summarizes briefly their chief contributions.
328. TRAXLER, ARTHUR EDWIN. *The Measurement and Improvement of Silent Reading at the Junior-High-School Level*. Chicago: University of Chicago Libraries, 1932 (private edition). Pp. viii+218.
Describes the derivation and the validity of a battery of silent-reading tests and their use in diagnosis and remedial teaching.
329. TYRE, AMY MAY. "Junior High School Pupils and the Newspaper Vocabulary," *Educational Research Record* (University of Nebraska), IV (April, 1932), 118-21, 124-25.
Reports the results of a study of newspapers to determine whether the vocabulary used is within the grasp of junior high school pupils.
330. WOODY, CLIFFORD. *Nature and Amount of Arithmetic in Types of Reading Material for the Elementary Schools*. Bulletin of the Bureau of Educational Reference and Research, No. 145. Ann Arbor, Michigan: School of Education, University of Michigan, 1932. Pp. 80. See also *Educational Outlook*, VI (May, 1932), 199-217.
Reviews related studies and presents the results of analyses of books and materials assigned in Grades III-VIII, inclusive, to determine mathematical terms and concepts.

ENGLISH¹

R. L. LYMAN

331. CERTAIN, C. C. "Creative Writing in the Grades," *Elementary English Review*, X (January, 1933), 16-18.
A useful bibliography of eighty-two recent publications on the subject indicated.
332. CONNOR, WILLIAM L. "Average Performance or Roof-Line as Standard in English," *Educational Research Bulletin*, XII (May 10, 1933), 141-47.
Results of experiments indicate that standard requirements in composition have been far below the maximum achievement level in language and composition. New methods of teaching are suggested.
333. DOLCH, EDWARD WILLIAM. "Testing Word Difficulty," *Journal of Educational Research*, XXVI (September, 1932), 22-27.
Experiments with objective tests of word meaning produce varying results, indicating that such tests aid the pupil with some words and hinder him with other words. The tests fail to reveal the true relative difficulty of words.

¹ See also Items 41, 57, and 67 in the list of selected references appearing in the February, 1933, issue of the *School Review*.

334. ENGLISH, MILDRED. "Creative Writing in the Middle Grades," *Education*, LIII (November, 1932), 133-37.
A constructive program based on extended classroom experience.
335. FITZGERALD, JAMES A. "Children's Spontaneous Writing," *Peabody Journal of Education*, X (November, 1932), 172-78.
An analysis of 3,184 social letters written by middle-grade pupils in life outside the school reveals both the situations in which pupils actually communicate and the types of errors which they make.
336. FRIES, CHARLES C. "For Economy and Good English," *University of Michigan School of Education Bulletin*, III (May, 1932), 118-20.
Most language tests include as errors a large number of items which linguists do not classify as errors. The schools must abandon their attack on many mistakenly called "language errors."
337. GREENE, HARRY ANDREW. *A Criterion for the Course of Study in the Mechanics of Written Composition*. University of Iowa Studies in Education, Vol. VIII, No. 4. Iowa City, Iowa: University of Iowa, 1933. Pp. 64.
An analysis of manuals of style most commonly used by publishing houses reveals general categories of capitalization and punctuation of greatest social utility.
338. GREENE, HARRY A. "Research in Elementary Language: A Report on Problems and Progress," *Elementary English Review*, X (March, April, and May, 1933), 59-66, 101-7, 126-34.
A bibliography of recent research in curriculum content, grade placement, and teaching methods carried out in the Bureau of Educational Research and Service of the University of Iowa.
339. GREENE, HARRY A., and BETTS, EMMETT A. "A New Technique for the Study of Oral-Language Activities," *Elementary School Journal*, XXXIII (June, 1933), 753-61.
Experiment shows the unreliability of records of pupils' oral work made by court reporters, stenographers, and phoneticians. Such records compare most unfavorably with reproductions secured by an electrical apparatus.
340. GUILER, WALTER SCRIBNER. "Survey of English Usage of Elementary School Pupils in Ohio," *Elementary English Review*, IX (September, 1932), 169-71, 182.
State-wide survey of English usage reveals steady progress from grade to grade, wide differences and overlapping in achievement, and the prevalence and persistence of certain errors.
341. HENDERSON, MILDRED. "An Experiment in English," *Junior-Senior High School Clearing House*, VI (April, 1932), 470-73.
A literature and composition course based solely on pupils' native interests, developing inquisitiveness and initiative.

342. HOPFES, WILLIAM C. "Some Aspects of Growth in Written Expression," *Elementary English Review*, X (March and May, 1933), 67-70, 121-23.
Evidence showing the developing capacities of pupils between Grades III and VI in the use of varied and refined expressions. The intimate associations between thought and language are revealed.
343. LA BRANT, LOU. "The Occurrence of Dependent Clauses in the Writing of School Children in Grades Four to Nine," *Educational Trends*, I (January, 1932), 16-20.
Certain clause constructions, particularly noun clauses, cause pupils little, if any, difficulty. To include extensive instruction of noun clauses on the ground that they function in English sentences is absurd.
344. OWEN, NELL. "Creative Writing in the Upper Grades," *Elementary English Review*, X (January, 1933), 9-12.
Creative writing associated with the reading of literature preserves the spontaneity of expression so often present in pupils of early grades and lost by them in the upper grades.
345. RASMUSSEN, CARRIE. "Choral Speaking in the Grades," *Quarterly Journal of Speech*, XIX (February, 1933), 43-51.
A valuable exposition of procedures for the conduct of a verse-speaking choir of elementary-school children.
346. RHODES, MARION C. "An Experiment in Correlation," *High Points in the Work of the High Schools of New York City*, XIV (June, 1932), 65-68.
A description of an experiment correlating English with five other subjects of the curriculum at the high-school level. Especially suggestive for teaching in the upper grades of elementary schools.
347. RODGERS, GRACE S. "A Critical Study of the Grammatical Errors of Junior High School Pupils," *Journal of Applied Psychology*, XVI (August, 1932), 421-26.
Analysis of 29,000 compositions reveals 9,394 errors, 7,784 of which occur in a relatively small number of categories.
348. ROSENBLOOM, MINNIE. "Teaching Atypical Children Creative Writing," *Elementary English Review*, IX (June, 1932), 153-55, 165.
Extensive experiments with classes of low-grade and high-grade ability reveal necessary modifications of procedure. Both groups can do effective work in creative writing.
349. SEEDS, CORINNE A. "The Language Arts and Elementary School Activities," *Progressive Education*, X (April, 1933), 204-9.
A description of social situations which call forth from children spontaneous responses both oral and written. Sharp contrasts with formal situations which develop unfortunate attitudes.
350. SEEGER, J. C. "Forms of Discourse and Sentence Structure," *Elementary English Review*, X (March, 1933), 51-54.

A report on research indicating that the form of discourse which children write has a definite bearing on the sentence structure used. Expository writing most likely to result in development of complex sentence structure.

351. WARNER, PAUL C., and GUILER, WALTER S. "Individual vs. Group Instruction in Grammatical Usage," *Journal of Educational Psychology*, XXIV (February, 1933), 140-51.

Extended experimentation indicates distinct superiority of individual instruction. Presents facts concerning the elements of usage which have the highest error quotients.

SPELLING*

FREDERICK S. BREED

The following references, with one exception, represent a selection from a list of publications which appeared between April 1, 1932, and July 1, 1933. A glance at the titles and annotations will suggest that the revival of interest in spelling rules continues, that there is obvious discontent with the present provisions for spelling instruction in high schools, and that efforts are being made to analyze more objectively the factors that contribute to efficiency in spelling.

352. CONNELLY, ELIZABETH A. "An Experiment in Spelling," *English Journal*, XXI (October, 1932), 666-69.

Shows how the spelling of high-school pupils was improved by the use of an average of six minutes daily in English classes.

353. COOK, WALTER WELLMAN. *The Measurement of General Spelling Ability Involving Controlled Comparisons between Techniques*. University of Iowa Studies in Education, Vol. VI, No. 6. Iowa City, Iowa: University of Iowa, 1932. Pp. 112.

Three experiments relating to technique in the measurement of spelling ability. The first experiment deals with the selection of test words, special reference being given to difficulty and discriminating power; the second and third, with the evaluation of six self-administering test techniques.

354. DEAN, RAY B. "Adapting the Speller to Individual Differences," *Sierra Educational News*, XXIX (February, 1933), 42-43, 63.

Describes a method of individual instruction in spelling that can be used with any textbook.

355. HAYES, MAUD E. "Should Teachers of Home Economics Classes Teach Spelling Too?" *Journal of Home Economics*, XXV (April, 1933), 308-9.

Lists the words misspelled by junior high school girls in filling out questionnaires in courses on clothing.

* See also Items 301 and 325 in the list of selected references appearing in the May, 1933, number of the *School Review* and Item 245 in the September, 1933, number of the *Elementary School Journal*.

356. KING, LUELLA M. *Learning and Applying Spelling Rules in Grades Three to Eight*. Teachers College Contributions to Education, No. 517. New York. Teachers College, Columbia University, 1932. Pp. x+80.
Reports the results of an experimental study of the ability of elementary-school pupils to understand and apply spelling rules. Seven rules were selected on the basis of frequency of application, number of exceptions, and ease of learning, and were taught in accordance with detailed lesson plans.
357. KRAMER, GRACE A. "What Words Do Adults Misspell?" *Baltimore Bulletin of Education*, X (May-June, 1932), 190-91.
The seventh instalment of a study of words misspelled by adults, indicating source and form of misspelling, as well as location of words in vocabularies compiled by Horn and by Breed.
358. SCHONELL, F. J. *The Essential Spelling List: 3,200 Everyday Words Selected, Graded and Grouped According to Common Difficulty*. London: Macmillan & Co., Ltd., 1932. Pp. 48.
An essential spelling list for use in English elementary schools. The words were selected on the basis of adult usage in written discourse and the results of a survey of children's written English.
359. "Spelling Reform at the Theodore Roosevelt High School," *High Points in the Work of the High Schools of New York City*, XIV (March, 1932), 41-49.
Presents eight spelling lists of one hundred words each, with suggestions designed to aid high-school pupils in the independent study and mastery of the words.
360. ULRICH, CARL F. "Interpretation of a Case of Miswriting," *Psychoanalytic Review*, XIX (April, 1932), 200-202.
Offers a Freudian interpretation of certain lapses or "slips of the pen." Because of the fact that some letters of the alphabet have also the meanings of words, a "compound formation or mistake" having a secondary significance for the psychiatrist may result.
361. URELL, CATHERINE. "A Plan for Teaching Seventh Grade Spelling," *Educational Method*, XII (October, 1932), 49-51.
Describes a plan of teaching spelling in the junior high school, involving individual responsibility of the pupils and independent study of word lists.
362. WHEAT, LEONARD B. "Four Spelling Rules," *Elementary School Journal*, XXXII (May, 1932), 697-706.
Analyzes four large groups of words found in a minimal spelling list in an attempt to determine in each case the best possible generalization with regard to the method of spelling.
363. WILLIAMSON, EDMUND G. "The Relation of Learning to Spelling Ability," *Journal of Educational Psychology*, XXIV (April, 1933), 257-65.

Describes the results of an experiment in the learning of Esperanto words. Suggests that the conception of "special disability" in spelling be discarded. Concludes that in the teaching of spelling more attention should be directed to skills of learning and to general intelligence as important factors.

HANDWRITING¹

FRANK N. FREEMAN

364. ARNOLD, ESTHER WHITACRE. "The Transition from Manuscript to Cursive Writing," *Elementary School Journal*, XXXIII (April, 1933), 616-20.

An informal experiment which led the author to conclude that the change from manuscript to cursive writing should be made at the beginning of Grade IV.

365. CARMICHAEL, LEONARD, and CASHMAN, HELEN. "A Study of Mirror-Writing in Relation to Handedness and Perceptual and Motor Habits," *Journal of General Psychology*, VI (April, 1932), 296-329.

A case study of seven spontaneous mirror writers and a theoretical interpretation of mirror-writing in the light of these cases.

366. CRIDER, BLAKE. "The Adaptability of Pupils to Manuscript Writing," *Elementary School Journal*, XXXII (April, 1932), 617-22.

A test of the manuscript writing of pupils who had changed from cursive writing to manuscript writing showed that they acquired normal speed in the new writing within half a year and normal quality in about a year and a half.

367. DOWNEY, JUNE E. "Back-slanted Writing and Sinistral Tendencies," *Journal of Educational Psychology*, XXIII (April, 1932), 277-86

The study of back-slanted writing in relation to hand preference led the author to conclude that backhand slant is easier for some children, particularly left-handed children or children with tendencies of left-handedness.

368. PHELPS, ETHELINE M. "The Handwriting Lesson and the 'Other' Subjects," *Elementary School Journal*, XXXIII (October, 1932), 142-46.

Describes a method of teaching in which attention is centered on the improvement of the pupils' ordinary writing in the other subjects

369. SHAW, LENA A., and IRWIN, MANLEY E. "A Study of Good and Poor Writers," *Educational Method*, XII (February, 1933), 275-84.

A comparison of the age and the intelligence of the best and the poorest writers of each grade and a questionnaire study of causes ascribed and remedies used by teachers.

370. WAILERT, JENNIE. "Manuscript Writing," *Childhood Education*, VIII (June, 1932), 517-21.

Shows that little difficulty is experienced in transition from manuscript to cursive writing. Manuscript writing is a great help in written spelling and in reading.

¹ See also Item 254 in the September, 1933, number of the *Elementary School Journal*.

THE SOCIAL SCIENCES¹

R. M. TRYON

The references which appear below were selected from a more extended list covering the chronological period from April 1, 1932, to August 1, 1933. In the final selection of titles to be included, courses of study had to be omitted because of space limitations. The reader will observe that the items selected include a variety of aspects of the social sciences in the elementary school and the junior high school.

371. BARNES, MACON E. "Some Newer Types of Procedures in Teaching the Social Studies," *Virginia Journal of Education*, XXVI (April, 1933), 309-11.

A concrete account of how the work in the social sciences is conducted in the high school at Newport News, Virginia.

372. BECKER, CARL. "Capitalizing History in the School," *Education*, LIII (December, 1932), 199-201.

A plea for teachers who know much history and for courses in history adapted to the present and the future needs of pupils

373. BYE, EDGAR C. "Fusion or Confusion?" *Historical Outlook*, XXIV (May, 1933), 264-67.

An attempt to show what the fusion of the social sciences really means. Gives an example of true fusion as the author of the article views it.

374. CAJORI, MARION HAINES. "A Social Studies Program for Nine-Year-Olds," *Education*, LIII (May, 1933), 563-66.

Describes an integrated program of social study for nine-year-olds centering in the first one hundred years of American history. An attempt to determine whether it is better to treat history as history, geography as geography, and composition as composition, or to integrate these subjects as a course in social relations.

375. CLARK, MARION G. "The Engineering of Problem Solving," *Education*, LIII (December, 1932), 201-7.

Timely suggestions relative to the teaching of history according to the dictates of the problem-solving plan of procedure. Makes clear the part of the teacher and the part of the pupils in the daily routine of the plan.

376. CLARK, ROBERT. "The Value to the Adolescent of a Study of History," *Education*, LIII (December, 1932), 228-30.

A consideration of five situations in which history does not have value to the adolescent youth and four conditions under which it does have value.

¹ See also Item 93 in the list of selected references appearing in the February, 1933, number of the *School Review*; Item 137 in the April, 1933, number of the *Elementary School Journal*; and Item 249 in the September, 1933, number of the *Elementary School Journal*.

377. CRAMER, JOHN FRANCIS. "Relative Difficulty of Junior High School Social Studies Texts," *Journal of Educational Research*, XXVI (February, 1933), 425-28.
An experiment based on the Rugg textbooks. Results favor these books.
378. FLANAGIN, RAYMOND J. "Activities for Citizenship Training," *Nebraska Educational Journal*, XII (April, 1932), 189-90.
A brief article describing the activities of a junior congress in the Walnut Junior High School, Grand Island, Nebraska.
379. FLOYD, OLIVER R. "The Preparation of Teachers of Social Studies in the Junior High School," *School Review*, XLI (April, 1933), 290-93.
A study of the preparation of 118 teachers of the social sciences in junior high schools, which was made during the school years 1929-30 and 1930-31. It was found that seven teachers had had no training in higher institutions of learning in history, forty-one in political science, thirty-eight in economics, and thirty-eight in sociology.
380. HANTHORN, ALICE. "History and Geography in the Upper Elementary Grades," *American Childhood*, XVIII (April, 1933), 10-12.
Advocates separate courses in history and geography and offers a few concrete suggestions for making these subjects vital to children in the intermediate grades.
381. HAPFOLD, F. C. "The Changing Curriculum: Social Studies—A Suggested Syllabus," *New Era*, XIV (April, 1933), 106-7; "The Changing Curriculum: Social Studies—Methods of Work," *New Era*, XIV (May and June, 1933), 129-30, 152-53.
A series of short articles on content and method in literature, geography, economics, and civics—subjects sometimes called "English subjects" in England when treated separately and "social studies" when combined.
382. HARDEN, MARY, and SCRANTON, CLARA. "Present Trends and Current Practices in the Teaching of the Social Studies in the Elementary School," *Historical Outlook*, XXIV (April, 1933), 201-10.
An elaborate treatment of recent innovations in the teaching of the so-called "social studies" in the primary and the middle grades. Much concrete material is included.
383. HUBBELL, PAUL E. "The Objectives of History Teaching," *American Schoolmaster*, XXV (November 15, 1932), 342-45.
A stimulating plea for the socialization of history-teaching. The claim is made that objectives of history-teaching should relate to the life and the environment of natural groups which individuals form.
384. HUNT, NORMAN R. "Social Attitudes and the Social Sciences in the Junior High School," *Historical Outlook*, XXIV (April, 1933), 210-16.
An analysis of the socialization function of the school and its relation to the social sciences. A thought-provoking discussion.

385. KARTOZIAN, ANNIE A. "Methods of Teaching History through Biography," *Historical Outlook*, XXIV (January, 1933), 14-18.
A summary of a study of methods, devices, and procedures for teaching history through biography. The data for the study were suggestions by writers on the subject and by teachers in the field. A valuable article for those interested in the subject.
386. KELTY, MARY G. "The 'New' Content of the Social Studies in the Elementary School," *Educational Method*, XII (May, 1933), 461-66.
A brief survey of the present situation and apparent trends in the content of the social sciences in the elementary schools. Makes a plea for more attention to content and calls attention to the tendency to overemphasize organization and method.
387. KNOWLTON, DANIEL C., and TILTON, J. WARREN. "Auditorium versus Classroom Showing of Motion Pictures in History Teaching," *Journal of Educational Psychology*, XXIII (December, 1932), 663-70.
An experimental study of the relative merits of auditorium and classroom showing of motion pictures in history-teaching. The classroom showing was found to be superior.
388. LACEY, JOY MUCHMORE. *Social Studies Concepts of Children in the First Three Grades*. Teachers College Contributions to Education, No. 548. New York: Teachers College, Columbia University, 1932. Pp. vi+90.
An attempt to take stock of the information possessed by pupils in the primary grades about the social world in which they live.
389. *Major Units in the Social Studies for the Intermediate Grades*. Edited by Charles Wilken Waddell, Corinne A. Seeds, and Natalie White. New York: John Day Co., 1932. Pp. 390.
An account of curriculum studies from the intermediate grades of the elementary school of the University of California at Los Angeles, with enterprises centering in the social sciences.
390. MASTERMAN, J. H. B. "The Teaching of Local History," *History*, XVIII (April, 1933), 1-10.
A fresh and vivid treatment of an important theme. Emphasizes the value and the materials of local history. Of much value to those who are interested in the past because it makes the present intelligible.
391. MATLOCK, AGNES. "The Social Studies as a Medium of Effective Speech Training," *Platoon School*, VII (February, 1933), 13-18.
An account of the experiences of a seventh-grade class in American history, in which much emphasis was placed on dramatization and group reports. A valuable article for those interested in making history concrete and real.
392. RUBENSTEIN, JACOB. "Teaching History as a Way to Life," *Junior-Senior High School Clearing House*, VI (April, 1932), 492-95.
A plea for history-teaching that is vital and far reaching. Claims that, if history-teaching is to be made a way of life, it will be necessary to free the teacher

from the handicaps of a rigid curriculum and uniform examinations and to organize the work in terms of the changing interests of the pupils.

393. SKINNER, MABEL. "Field Work in Civics," *Education*, LII (May, 1932), 517-21.

An interesting discussion of community research, observation, and interview as types of field work in the teaching of civics. Emphasizes the need of fostering knowledge of the pupils' own community and zeal for the public good.

394. SMITH, DONALD V. "The Unit Plan in Social Science versus the Social Subjects," *Historical Outlook*, XXIV (January, 1933), 22-24.

An excellent brief statement of the pros and cons of a three-year unified social-science course in the junior high school and courses in the special subjects, such as history, geography, and civics.

395. SNEDDEN, DAVID. "Searching for the Educationally Functional in the Social Studies," *Proceedings of the Twelfth Annual Session of the Ohio State Educational Conference*, pp. 400-404. Ohio State University Bulletin, Vol. XXXVII, No. 3. Columbus, Ohio: Ohio State University, 1932.

Recognizes the cultural value of history and human geography but denies their value in a program of effective civic education.

396. *Supervision in the Social Studies*. Third Yearbook of the National Council for the Social Studies. Philadelphia: McKinley Publishing Co., 1933. Pp. 260.

A concrete presentation of many aspects of the general subject. Not confined wholly to the grades below the senior high school.

397. TEDLOCK, T. E. "Training in Applying Scientific Thought to Social Problems," *Social Science*, VIII (April, 1933), 115-23.

A plea for subject matter in the social sciences which presents vital social problems in such a way as to equip pupils to do their own thinking with respect to these problems. A stimulating discussion of an extremely controversial subject.

398. WOLIVER, STELLA. "Teaching Values of the Renfrow Sixth Grade History Tests," *Educational Method*, XI (June, 1932), 553-55.

A brief report on the administration of a test on the European background of American history in the Whittier School, Cincinnati, Ohio. The name of the test is included in the title of the article.

GEOGRAPHY¹

EDITH P. PARKER

A canvass of material published since October 1, 1932, disclosed approximately a hundred books, bulletins, or articles dealing with elementary geographic training. The following list was derived by

¹ See also Item 88 in the list of selected references appearing in the February, 1933, number of the *School Review*.

selecting those which seemed to be the more significant, helpful contributions. Some articles were excluded because of their brevity and the fact that they duplicated, in essence, longer treatments included.

Some references which relate both to elementary-school and secondary-school geography were not included because they appeared in the list of selected references appearing in the February, 1933, number of the *School Review*.

399. BERRY, WILLIAM J. "Testing for Geography Attainments," *Educational News Bulletin*, III (February, 1933), 12-16 Kalamazoo, Michigan: Western State Teachers College.

Points out the fact that many objective tests in geography test only factual material and gives illustrations of objective tests which check the pupil's knowledge of relationships and his ability to reason.

400. CALLOWAY, KATHARINE L. "Songs and Poems of Many Lands," *Journal of Geography*, XXXI (November, 1932), 330-42.

Reports a graduation program which capitalized geographic understandings in the interpretation of the musical and the literary selections involved.

401. CREWSON, WALTER S. "Teaching Unit on Japan," *Journal of Geography*, XXXII (January, 1933), 27-35.

Illustrates the use of specific materials in motivating, assimilating, summarizing, and testing exercises.

402. CROPPER, FLOYD A. "Why the Geography Picture?" *Nebraska Educational Journal*, XIII (March, 1933), 79, 83, 96.

Records an experiment in the use of pictures in gaining understandings of geographic relationships

403. DUFFIELD, MINNIE M. "Making a Living in China," *Journal of Geography*, XXXII (February, 1933), 66-77.

Shows how teaching procedure was directed toward the mastery of a major geographic understanding.

404. EISEN, EDNA E. "Exhibits of Geography Work," *Journal of Geography*, XXXII (March, 1933), 108-14.

Stresses the purpose of geography exhibits and the nature of material suitable for display.

405. GROUNDS, F. ORAL. "Geography in Elementary and Secondary Education in Germany," *Journal of Geography*, XXXI (December, 1932), 376-80.

Reports standardization of time allotment for geography throughout the elementary and secondary schools in Germany.

406. HALE, FLORENCE. "Teaching Local Geography: Using the State of Maine as a Type Study," *Grade Teacher*, I (April, 1933), 604, 630-33.
Describes the use of a current problem in developing a geographic understanding concerning the state.
407. HARRISON, LUCIA. "Some Goals of the Elementary School Curriculum in Geography and Evidences of the Extent to Which Attained," *Educational News Bulletin*, III (February, 1933), 1-5. Kalamazoo, Michigan: Western State Teachers College.
Describes concepts and skills which children should possess at the end of their elementary-school course in geography and indicates deficiencies and misconceptions common to a large number of students enrolled in the introductory course in geography at Western State Teachers College.
408. LOGAN, MARGUERITE. "Some Techniques in Curriculum Construction in Geography," *Educational News Bulletin*, III (February, 1933), 6-11. Kalamazoo, Michigan: Western State Teachers College.
Sets forth "certain of the major goals of geographers in curriculum-building" and suggests "steps which may be taken in the attainment of these goals."
409. MARSTON, C. E. "The Elementary Principal as a Supervisor of Geography," *Journal of Geography*, XXXII (January, 1933), 21-26.
Treats of the importance of proper guidance and direction of untrained teachers of geography.
410. O'DAY, LAURA. "Museum Adventures in Geography," *Educational Screen*, XII (May, 1933), 140-42.
Reports experimentation by the Buffalo Museum of Science with the use of visual aids in developing geographic understandings.
411. PRESSEY, LUELLA COLE. "Fundamental Vocabulary in Elementary School Geography," *Journal of Geography*, XXXII (February, 1933), 78-81.
Reports a study to determine frequencies of words in six elementary geographies.
412. PROUDFOOT, MALCOLM J. "Use of Photographic Material in Teaching Elementary Geography," *Journal of Geography*, XXXI (December, 1932), 381-90.
Discusses the place of photographs in modern geographic training and their selection and uses in teaching procedure.
413. SHIPMAN, JULIA M. "Teaching Urban Geography in the Elementary Schools," *Journal of Geography*, XXXII (May, 1933), 209-14.
Treats of types of city studies and stresses the importance of understanding urban geographic personalities.

414. *The Teaching of Geography*. Thirty-second Yearbook of the National Society for the Study of Education. Bloomington, Illinois: Public School Publishing Co., 1933. Pp xviii+588

Contains a comprehensive group of reports dealing with investigations and developments in the field of geographic education and with recommendations concerning curriculums and procedures. The compilation was made by a committee, of which A. E. Parkins, of the George Penbody College for Teachers, was the chairman. Members of the committee were Robert M. Brown, Earle E. Lackey, Edith P. Parker, Douglas C. Ridgley, De Forrest Stull, and Zoe A. Thralls. The volume was edited by Guy Montrose Whipple. The reports are grouped into six sections entitled, "The Development of Geography and Its General Contribution to Life," "Developing the Science of Teaching Geography," "Geography in the Curriculum," "The Curriculum in Geography," "The Technique of Teaching Geography," and "Investigations in the Teaching of Geography." By reason of the scope of the work, the large number of contributions involved, and the co-operation of the National Society for the Study of Education and the National Council of Geography Teachers in the preparation of the volume, it constitutes the most important single publication of the year in the field of geographic education. Abstracts of discussions of the yearbook at the Minneapolis meeting of the National Society for the Study of Education, February, 1933, were published in the *Journal of Geography*, XXXII (April, 1933).

415. THRALLS, ZOE A. "The Selection and Use of Pictures," *Journal of the National Education Association*, XXI (November, 1932), 247-48; "The Use of Maps in Geographic Instruction," *Journal of the National Education Association*, XXI (December, 1932), 301-2; "Gradation of Geographic Materials," *Journal of the National Education Association*, XXII (February, 1933), 49-50, "The Teaching Unit in Geography," *Journal of the National Education Association*, XXII (May, 1933), 153-54.

A series discussing the place of "tools" in the teaching of geography and illustrating their use in a teaching unit.

416. WATSON, RUTH R. "The Geography Assembly," *Journal of Geography*, XXXII (May, 1933), 200-209.

Discusses the purpose of geographic assembly programs and materials suitable for this use.

417. WILKES, ELLA. "Use of Maps in Teaching Geography," *Kentucky School Journal*, XI (December, 1932), 7-8

Illustrates the use of maps as a basic source of geographic information.

Educational Writings

REVIEWS AND BOOK NOTES

The structural organization of the American school system.—The Inglis Lecture for 1933¹ has come from the press. This lectureship was established at the Graduate School of Education, Harvard University, by his friends and colleagues to honor the memory of Alexander Inglis. This lecture is the ninth of a series of excellent contributions to the problems of secondary education. This particular lecture deals with the fundamental problem. What is secondary education? The paper is one of the most vital and stimulating discussions of this problem that has ever come to the writer's attention.

All who are familiar with the history of American education realize fully that the present system of education in the United States is not yet mature but is still in the process of evolution. It has not yet been fully defined in terms of the units in which the educational processes shall be conducted. At one stage in the evolution of the system it looked as though the major units had been clearly demarcated: an elementary school of eight years, a high school of four years, and a college period of four years. Since 1890, however, much has happened to disturb this earlier simplicity. New educational concepts have given rise to two other units, namely, the junior high school and the junior college. Now, instead of three rather simple and continuous units, we have five units, and the whole system is characterized by a lack of co-ordination and continuity. That there is urgent need for a reorganization of our entire system on the basis of fundamental educational principles is now generally recognized by educational leaders. Professor Morrison in this lecture has defined these principles in magnificent terms and has laid the basis for the organization of the future system of education in the United States.

It is Professor Morrison's thesis that both the junior high school and the junior college are structural adaptations forced by social circumstances in the direction of the American common school and that these adaptations have had as their primary objective the achieving of educational continuity for all pupils. He reasons that, "while modification of structure was brought about, there was no fundamental change in structural pattern" (pp. 32-33). The conclusion is that, on the basis of educational principles, there are only primary, secondary,

¹ Henry C. Morrison, *The Evolving Common School*. The Inglis Lecture, 1933. Cambridge, Massachusetts: Harvard University Press, 1933. Pp. 62. \$1.00.

and higher education and, hence, that our system should conform to these fundamental concepts. He says:

And so just as economic changes have filled the schools and in the process generated the junior high school and junior college, so fiscal pressure must in the end force the coalescence of the several parts of the system into a single school with an entirely new kind of structure. If that is good reasoning, we shall only be coming back to a twentieth-century equivalent of the highway which the school system had been following up to forty or fifty years ago. Unhappily, it took the wrong turn because the back seat insisted on going that way [pp. 43-44].

Thus the main thesis is stated. But what are the principles upon which primary and secondary education are to rest? They are best understood in the author's own words:

I think we emerge into the prospect of a new definition of the secondary school.

"Secondary" implies "primary," and we have never, so far as I know, hesitated in our definition of the primary school. It is the school of the primary-school arts, in which the pupil can learn only from the teacher. By the time the pupil is equipped with reading, writing apprehended as written expression, and the essentials of the number system, he can begin to learn by studying. He has passed over into a different form of educational progress; he is in a different school, albeit he may still be under the same teacher. If the first school was primary, this is secondary. He is not out of the primary school until he has the primary learnings, even though he never attains them [pp. 44-45].

The end of secondary education is reached when the student, by the process of studying, reaches intellectual maturity as well as moral and volitional maturity. It is evident that neither primary nor secondary education can be defined in terms of time.

The implications of these principles are far reaching. The author presents them in an effective and convincing manner. No student of education can neglect to give them his most serious study. The entire profession of education is indebted to Professor Morrison for the valuable contribution he has made through the medium of the Inglis Lecture.

HOMER P. RAINEY

BUCKNELL UNIVERSITY, LEWISBURG, PENNSYLVANIA

Social change and educational problems in the United States.—Periodic stock-taking is useful under any circumstances. It is particularly valuable at a time when significant shifts in trends seem inevitable, as is the case at present in all the fields of social development. Education is already experiencing significant shifts in its trends and must expect to feel even more important shifts in the early future. On that account, Judd's monograph,¹ prepared under the direction of the President's Research Committee on Social Trends, is exceptionally timely.

¹ Charles H. Judd, *Problems of Education in the United States. Recent Social Trends Monographs*. New York: McGraw-Hill Book Co., Inc., 1933. Pp. xii+214. \$2.50.

1933]

If the title of the monograph were "Education in the United States" instead of "Problems of Education in the United States," it would more clearly indicate the nature of the contents. The treatment of the successive topics is descriptive of current practice, something of the historical background and a little of prophecy being included. The discussion is not at all limited to the problems with which education is engaged.

Following an introduction, the monograph deals with seven topics: (1) "The New Status of Children in the United States," (2) "Inco-ordination of Administrative Units," (3) "Problems of Instruction," (4) "Problems of School Administration," (5) "Problems of Finance," (6) "Education for Adults," and (7) "Scientific Studies of Education." These topics will indicate the scope of the monograph. The discussion of each topic includes a statement of the essential movements or activities which are in any wise characteristic of education in the United States. The treatment is not confined, as such discussions often are, to schools, but it covers those movements and activities which have a direct bearing on education. For example, the discussion of the status of children treats not only such matters as compulsory school attendance but also the changes in our industrial system and their bearing on school attendance; the changed attitude of the public, as represented in the White House Conference on Child Health and Protection; and legal restrictions on child labor.

Another significant difference between this monograph and most treatments of education is the inclusion in each chapter of the status of higher education. This arrangement gives a comprehensive view of education in its entire scope, and the college is made to appear what it really is—a part of the educational system of the United States.

Taken as a whole, the book reflects the author's comprehensive view of the whole field of American education. As a concise exposition of the current status of education, the volume will be found exceedingly useful to all educators. It will be even more valuable, however, to the intelligent layman who may seek to understand the important developments in education just as he seeks to understand important developments in industry, in public-welfare work, or in the church. Here is an authoritative statement filled with significant facts but yet interpreted in the popular way demanded by the lay leaders. It should help to bring about a much wider general understanding of the place of education in our social scheme.

Educational leaders will find the monograph filled with the kind of educational data which they constantly need for reference. Not only are references made to the important current publications in the field of education, but numerous extracts and tables are quoted from these studies. The volume will be found indispensable as a ready reference for all those who seek to keep abreast of modern trends in education.

FRED J. KELLY

UNITED STATES OFFICE OF EDUCATION

The legal basis of school administration—Professor Newton Edwards, of the University of Chicago, has made a distinct contribution¹ to legal literature relating to the organization and administration of the public schools. The book is national in scope. Since 1920 several meritorious studies involving legal provisions concerning the public-school program have been published. Some of these are limited to mere summaries and comparisons of constitutional and statutory provisions, some refer to only one level of the school system, such as the elementary-school program or the secondary-school program; others deal with only a particular phase, such as curriculums or bond issues. It has remained for Professor Edwards to contribute the most comprehensive study involving legal techniques of research thus far published.

In this book the author has accomplished well two purposes: "(1) to make clear the fundamental principles underlying the relation of the state to education; (2) to reduce to systematic organization the principles of the case or common law which are applicable to practical problems of school organization and administration" (p. ix).

The book, which is organized under nineteen suitable chapter headings, covering approximately six hundred pages, may be said to treat four major school problems from the legal point of view: (1) relations of the state and the civil city, township, or county to the school district and school officials; (2) business problems of school boards, (3) the teacher, (4) the pupil.

In the first group are included topics dealing with the responsibility and the authority of the state, district organization and control, powers and liabilities of school officers, and kindred topics. The second group of topics treats more specifically such topics as contractual authority and liability of school boards, legal authority of school boards relative to securing school income and power to expend it for school purposes, tort liability of school districts, and personal liability of school officers. The teacher's legal rights and responsibilities are considered in the third group under such topics as employment, dismissal, pensions, and minimum wage. The pupil's relations to teacher authority, to rules and regulations of the school board, to compulsory-attendance laws, to health provisions, and to curricular prescriptions are typical problems included in the fourth group.

This book by Professor Edwards is not a survey of constitutional and statutory provisions of the several states. It is, rather, a scholarly study of the major problems of school organization and administration concerning which litigation in the courts has arisen. It is organized excellently for use as a textbook. The Table of Contents is meaningful and adequate in detail. Chapter headings and subheads throughout the book direct the reader's attention to the significance of principles discussed. Statements of principle are supported in approved legal

¹ Newton Edwards, *The Courts and the Public Schools. The Legal Basis of School Organization and Administration*. Social Science Studies Directed by the Social Science Research Committee of the University of Chicago, No. XXVIII. Chicago: University of Chicago Press, 1933. Pp. xvi+592. \$5 00.

style by footnotes citing decisions in courts of record from all jurisdictions in the United States. The omission of the dates of the decisions cited is of minor importance, since the reader who is interested may look up the references in any good law library in order to determine their relative recency. An adequate index increases the convenience and value of the book for the school official or for the student of legal aspects of school administration.

On the whole, the book is an outstanding exposition of legal aspects of school problems of paramount importance. Topics have been selected with intelligence and understanding. Copious quotations from significant decisions accompany clear statements of legal principle. The book should receive wide approval from busy school officials and as a basic textbook in courses dealing with legal aspects of school administration.

WILLARD W. PATTY

INDIANA UNIVERSITY

Subnormal children in regular and special classes of the elementary school.—Provisions for training subnormal children vary in different school systems and often in schools of the same system. Special classes and even special schools have been organized for those who fail to approximate the progress of their more fortunate comrades in regularly organized schools. However, in most educational systems large numbers of subnormal children remain in regular classes because facilities to provide more homogeneous grouping or a differentiated curriculum are not available. Differences in administrative methods employed in meeting the situation prompted a study¹ which approaches, by the case-study method, some of the problems involved in the education of the mentally deficient.

The study reports the differences in physical traits, educational achievement, and personality between subnormal children who had been taught in regular classes and those who had received one year or more of instruction in special classes. More specifically, an attempt is made to throw some light on the following questions:

Are there any particular disabilities which differentiate the special group from the grade group?

How do the two groups rate in school conduct?

Are there any marked differences in personality makeup which make it easier for some subnormal children to hold their own in the regular grades?

How do the two groups compare in educational achievement?

Are there any marked differences in the two groups in their knowledge of the English language?

How does the educational achievement of subnormal children in the elementary grades compare with that of normal children in the same grades?

Is there any particular school subject, such as reading, in which the one group shows marked superiority over the other?

¹ Annette Bennett, *A Comparative Study of Subnormal Children in the Elementary Grades*. Teachers College Contributions to Education, No. 510. New York: Teachers College, Columbia University, 1932. Pp. 5+82 \$1.50

Are there any significant differences in the educational histories of the two groups?
How do the two groups rate in the number of physical defects and handicaps?
Are there any marked differences in the socio-economic status of their homes?
Do the two groups show any marked differences in their play interests and in various extra-curriculum activities? . . .
How do the two groups compare in psychotic tendencies? [Pp. 3-4.]

No differences were found between the two groups in vocabulary, nationality, occupational ratings of fathers, mechanical aptitude (MacQuarrie Test for Mechanical Ability), average age upon entering school above the kindergarten, number of schools attended, average yearly absence, average attendance during the last year, physical defects, average age of playmates, choice of games, activities outside of school hours, membership in clubs, frequency of attendance at social functions, and in responses indicating psychotic tendencies.

The average achievement scores of the grade group exceeded those of the special group on the arithmetic examination of the New Stanford Achievement Test, the Morrison-McCall Spelling Scale, and Types A, B, C, and D of the Gates Silent Reading Test. The evidence indicates that the superiority of the grade group results from selection rather than from training received by the two groups.

The special group received a higher rating in oral discussions in the classroom, habits of thrift, care of school property, regard for school regulations, clear speech, cleanliness, and co-operation. The special group also showed greater tendency to indulge in show-off and mischievous activities.

This descriptive study may be considered an excellent first step toward a more detailed investigation of the problems involved. The author quite properly refuses to interpret and to explain differences where explanations are unwarranted—until she reaches the concluding paragraph. It is doubtful if the conclusions concerning needs are justified by the findings presented. This criticism is of minor importance, however, and detracts little from an excellent study.

HERMAN G. RICHESY

Children's choices of color harmonies.—The teaching of color, since its introduction into the public schools, has been based on color harmonies which have been influenced in whole or in part by the artist's use of color. Recently, however, teachers have been trying to approach color from the level of the child, but they have found little information on the subject. A number of approaches to the solution of the problem are found in more than a dozen investigations of children's likings for single colors, but practically nothing has been done in the study of children's likings for colors in combinations. The latter situation may result from a lack of technique of procedure. This need for a method or a practical technique for the study of color has been met by a new monograph¹ which re-

¹ Ann Van Nice Gale, *Children's Preferences for Colors, Color Combinations, and Color Arrangements*. Chicago: University of Chicago Press, 1933. Pp. xvi+60. \$1.25.

ports, with very convincing data, a study of the innate preferences in color arrangements of more than five hundred children.

The author, a teacher of art in the public schools in Chicago, reports a series of carefully planned experiments to determine color preferences of children in Grades III-VIII, inclusive, in the following arrangements: (1) twelve single colors; (2) three groups of complementary color combinations—yellow-blue violet, blue-orange, and red-green, with six variations of each group; (3) six warm and six cold colors; (4) six monochromatic and three analogous color schemes; (5) four triad and three independent color combinations of three colors each; (6) children's arrangement of a two-color and a three-color composition picked from a twelve-color wheel; and (7) influence of choices in color combinations on the selection of color prints of similar color schemes.

This study has three significant values: (1) It presents a technique of procedure for research in the field of art education, where comparatively little research has been done. (2) It gives reliable data which must be considered in building courses of study in art. The difficulty of present color concepts for the elementary school and the reliability of present methods of teaching color are challenged, as is evidenced by the monograph's report that children's choices of colors and color combinations in Grade III are not changed in the next five grades. (3) Tendencies are indicated which might be capitalized in the production of children's books, toys, clothing, room furnishings, etc.

A valuable supplement to this study of reactions of children to color schemes already arranged would be a qualitative examination of the color combinations employed in children's paintings.

J. B. SMITH

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Vocational opportunities.—An important indication of the growing interest of school authorities in vocational-counseling programs is the increase in the number of publications providing information about the industrial world. At the present time the number of such publications is legion. They vary from a description of a specific vocation to a treatment of the problems that confront workers in industrial life. One more publication¹ has been added to the list. This book contains some features that should make it of special value for use in the upper grades or junior high school.

This publication is divided into nine parts. The titles of the nine divisions are as follows: "Dignity of Work," "Industry and the Worker," "Your Work," "Kinds of Work," "Thrift and Banking," "Professions," "Personal Service," "Government Service," "World of Opportunity." As suggested by these titles,

¹ Frank A. Rexford, Charles M. Smith, Sarah Lansburg Sellin, and Paul F. Frabito, *Beyond the School: A Textbook on Work and Living*. New York: Henry Holt & Co., 1933. Pp. xx+410.

the aim of the book is to present information concerning the social and economic problems of workers and a description of various vocational fields. In presenting the material, the authors have kept well in mind the needs and limitations of their pupil readers. They appeal directly to the interests of adolescents and make effective use of stories and conversation. By means of this type of presentation, material is made stimulating which might otherwise be considered trite by a large number of the pupils who had had a course in civics before reading the volume.

The book may be used as a textbook or as supplementary reading in a course in careers or vocations. In schools in which such specific courses are not offered, it may conceivably be used as supplementary reading or as an assigned reference in a unit in one of the social-science subjects or in English. The Table of Contents is so arranged that it may be used as a teaching guide.

Although the type of information contained in this publication should be brought to the attention of all adolescents, it has particular value for those who must enter the business or industrial world before the completion of their high-school course.

The book contains a large number of worth-while illustrations. However, the pictures that depict men and women at work have a limitation common to most pictures of this type: they lack what may be called "work atmosphere." In order that reality may be added to the impressions of the work-a-day world obtained from photographs and descriptive material, pupils should be encouraged to make visits to industrial organizations as a supplement to their class work. The authors' treatment of the material will very probably stimulate the pupils to such further investigation.

Teachers of pupils of the early adolescent period and school administrators who are planning to introduce a vocational-counseling program in the curriculum will make no mistake in considering this volume. Every vocational counselor of boys and girls should know of this contribution to the literature of his field.

ROBERT C. WOELLNER

Health teaching.—Two books on health,¹ prepared for junior high school grades, are constructed on the type of a laboratory program. The method suggested for the use of the textbooks, as explained in the Teacher's Manual, is to give the pupil an opportunity to learn as much as possible from observation, survey, demonstration, and experiment. The general rule followed is to tell the pupil nothing that he can discover for himself. The text will tell him the things he ought to know but cannot easily find out by experiment or observation. The order of study advised by the authors is "Experiences first and books afterwards."

¹ F. M. Gregg and Hugh Grant Rowell, *Health Studies. Personal Health*, pp. vi+314, \$0.84; *Home and Community*, pp. vi+258, \$0.76. Yonkers-on-Hudson, New York: World Book Co., 1932.

The book entitled *Home and Community* includes various topics of community hygiene. In the chapter titles we find "A Survey at School" and "Planning a House." The companion volume, *Personal Health*, begins with a chapter on "How To Take Stock of Yourself," and the succeeding chapters are arranged on the conventional or traditional plan of considering in sequence the questions, information, and "exercises" relating to the principal functions, structures, and hygienic workings of different parts of the body. Pupils using this book are supposed to become sufficiently familiar with the mechanisms of the body to understand how these perform, or should perform, their tasks in various situations and activities in daily life. While no specific advice is given in the Teacher's Manual with reference to the order in which these two books may be most advantageously used, the suggestion is that it would be desirable to take up the course in community health before studying the course dealing with personal health.

The two books present a wide variety of illustrations in photographs and drawings. These range from pictures of living human beings in portraits and normal life-activities, with cuts showing community conditions both healthful and unhealthful, to representations of bacteria and other causes of disease. *Personal Health* contains a few illustrations like those from certain medical textbooks—line drawings and halftones of the human skeleton, teeth, section of the skin, of intestinal villi, the exposed viscera of thorax and abdomen, and the classical halftone cut of the disembodied digestive tract. To many the illustrations in *Home and Community* will appear more appropriate for boys and girls in the junior high schools than are those of the other book. The materials in these books are arranged in units.

The two books are self-sufficient in the main in supplying most of the health information needed. However, in the textbooks for pupils and in the Teacher's Manuals suggestions are given that health bulletins may be obtained from national and state health departments. Pupils are also encouraged to use and depend on popular magazines and newspapers as sources of health materials. Some general references are made to "books on health and sanitation in pamphlets or periodicals, or in reference books, such as encyclopedias." Discriminating workers in health education believe that pupils of junior high school age, and older, should become familiar with dependable sources of health information as distinguished from those of questionable reliability. It is not apparent that the authors have sufficiently appreciated this objective.

The Teacher's Manuals for these two books, like the textbooks themselves, are developed with great regard to detail, but one may well secure the impression that teachers without exceptional training in the basic health sciences and skill in the requisite pedagogical methods will frequently find themselves puzzled or confused in attempts to help their pupils to the right answers to many of the questions presented.

Without attempting detailed critical analysis or judgment regarding the material and methods embodied in these two books, the reviewer suggests that some

of the principles or criteria now accepted as in accord with modern educational and pedagogical principles may well be applied to these books by those who are concerned with a specific evaluation of them.

An illustration of a critical evaluation of the material occurs in relation to the advocacy, in *Personal Health*, of the use by teachers and pupils of the height-weight tables for the comparison or judgment of the weight of individual pupils. In the educational use of weight and height as measures of growth, it is not now considered scientifically sound and advisable that the teacher, the parents, or the pupil himself compare his weight with the average weight of children of the same age and height, since such an average cannot be considered a norm or a health standard for the individual child. It may be advantageous for the physician or perhaps the non-medical specially-trained health worker to compare the pupil's weight with the average in connection with other characteristics or indices in forming a judgment or estimate regarding the pupil's nutrition and health status, but it is now recognized as very definitely important that the relation of the individual's weight to an average should not be relied on in any way as a dependable single index of normal growth, of nutrition, or of health.

Illustrative principles or criteria for health education which are accepted by educators are:

1. Health education, if sound, should be composed of constructive reactions to life-situations without thought on the part of the learner as to whether his reaction in a particular situation is one calculated to bring about his own self-improvement.

2. Health education, while aiming at the acquisition of scientifically sound specific ideas, motives, and habits related to health, should try to secure definite objective results without loss of, or injury to, the learner's insight, flexibility, and whole-heartedness in understanding, judging, and choosing knowledge and conduct.

3. In health education pupils should, as far as may be possible by wise and skilful guidance, be immersed in the pursuit of matters outside themselves, even while engaged in acquiring new or improved modes of thinking, feeling, or conduct of vital import to their own well-being. It is hoped that new and improved forms of health literature, teaching methods, and supervision will make this objective possible.

4. To become "health conscious," to aim at one's own health directly (except in injury or disability), to encourage any form of self-checking to record improvement of the self (except in recording gains in growth and weight or in other forms of concrete objective achievement) involve serious error, judged by the accepted criteria of mental hygiene. For a child or youth to check up on himself with some such device as "Am I in better health today?" or "Am I better adjusted today?" would be a serious error.

5. Health education should teach a child to be sensible and moderate in relation to well-established ideas and acts considered essential to health. He should always, if possible, wash his hands hygienically before eating, but, if

on occasion hand-washing is impossible, he should not fast. He should be healthy-minded.

6. The center of attention in health education is to be the situation—the experience. The need for healthful action is all bound up in the event itself. It is tangible and real. It cannot be escaped nor relegated to copy-books. Life brings one situation after another, each of which offers possibilities of greater or less integration of values.

The application of such criteria as those stated will help persons responsible for the selection of health books and other health publications to a sounder and more discriminating basis of evaluation than has usually been in evidence up to the present time.

THOMAS D. WOOD

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American history for the upper grades.—A new supplementary history for junior high schools¹ will be of interest to teachers seeking fresh material, well and simply told and presenting a distinctive point of view. "*We, the People*" is not just another retelling of American history in narrative form; it is rather a selected and carefully considered analysis of the ways by which the destinies of the American people have been shaped.

The book is essentially an account of the important social and economic forces which the author considers have been at work controlling the trends of modern life. Of political and military matters there is little mention. Actual references to battles and campaigns do not average much more than a page for any of our wars. The struggle between classes, as carried on in this country, is set forth in the third chapter and is a theme picked up again and again throughout the book and brought to a climax in the later chapters depicting the clash between farmers and capitalists and laborers and capitalists. Much is made of the influence of environment, natural and social, on the lives of the Colonists, on the attitudes of the North and the South at the time of the Civil War, on the frontiersmen, and on our present situation.

The story moves easily, with a wealth of detail aided by copious selections from source materials. The style is simple and invigorating, and the audience is appealed to or directly addressed sufficiently often to maintain a personal contact between the reader and the author. This direct appeal is employed to make understandable the past in terms of the present-day attitudes and happenings.

Especially commendable is the presentation of certain aspects of American history which have too often, intentionally or not, been written with a decidedly pro-American leaning whether or not the actual facts have so warranted. Huberman has cleverly presented the facts on both sides of issues and has refrained from pointing out conclusions. Thus, the Colonial encounters with the Indians are not glossed over when there is blame on the white man's side, British and

¹ Leo Huberman, "*We, the People*," New York Harper & Bros., 1932. Pp. xii+376. \$3.50.

Colonial attitudes in events preceding the Revolution are simply stated; reasonable explanations of the Southerner's slavery convictions are woven into the story, and the tale of "big business" is fearlessly exemplified by individual corporations.

As already indicated, the book is rich in source materials which add greatly to the force and the realism of the picture, especially as these are skilfully introduced into the narrative. In the nine-page Appendix full bibliographical references to all quotations are made for each chapter and page. Books thought suitable for children are starred. There is also a list of twenty-eight books in the "Selected Bibliography." These are mostly fiction, with some biographies, and they are certainly indicative of the type of material which, in story form, adds a vivid experiential background to some aspects in the drama of the American people.

The book carries many black-and-white block-print illustrations, which present powerful, if not always pleasant, pictorial interpretations of the text. The few sketch maps are diagrammatic or semi-pictorial in character and are pertinent aids worked into the story. To the two-page cover linings is added a touch of red, the only color in any of the drawings.

The volume is sufficiently different to challenge the attention of thinking teachers as a striking narration of social and economic trends in American life which the author has selected to explain the present. As supplementary material, the book is excellent, but it requires some previous knowledge of American history. Thus, on page 100 one must already know about the Continental Congress since no adequate explanation is made in the context.

The final chapter seems to end without saying much. Perhaps it is with a fine reticence that the author has refrained from the now almost hackneyed discussion of technological import to point out simply where "we, the people" have arrived.

RUTH R. WATSON

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THE TRANSFER OF THE FUNCTIONS OF THE FEDERAL BOARD FOR VOCATIONAL EDUCATION TO THE UNITED STATES OFFICE OF EDUCATION

By executive order recently issued, the functions of the Federal Board for Vocational Education have been transferred to the Department of the Interior. Secretary Harold L. Ickes of that department has in turn assigned the functions of the board to the United States Commissioner of Education and has authorized him to reorganize the Office of Education in such a way as to provide for the inclusion therein of the necessary personnel under the board. Hereafter the personnel dealing with the problems of vocational education will be organized as a subdivision of the Office of Education and will be subject to appointment by the secretary of the interior on recommendation by the commissioner of education. Secretary Ickes and Commissioner of Education George F. Zook have announced that a national advisory council on vocational education will be appointed in the near future, the council to be composed of leading and representative persons interested in the development of vocational education.

There can be no doubt that the transfer of the functions of the

Federal Board for Vocational Education to the Office of Education of the Department of the Interior constitutes a significant forward step in American education. To appreciate fully the significance of this new policy, one must be familiar with certain phases of the development of vocational education in this country during the past two or three decades. At the opening of the present century the chief function of the high school was to prepare for college those youths who expected to enter one or another of the professions. The high school gave very slight attention to subject matter of a vocational nature. Soon social and economic changes in American life began to force into the high schools large numbers of youths who did not expect to go to college or to enter the professions. To the new constituency the traditional literary curriculum of the high school was ill adapted; it neither challenged their interest nor met their needs. The high school was faced with a new social responsibility, which it was sometimes unable and sometimes even unwilling to assume. There was a disposition among a great many conservatives to deny the educational value of practical vocational courses and to insist on the continuance of the traditional literary and mathematics curriculum. On the other hand, advocates of radical reform insisted that the public schools offer opportunities for a great deal of specific trade training, and among the most extreme advocates of vocational education there was a disposition to abandon the literary curriculum and to substitute therefor a series of courses in which practical manual skills were cultivated. Thus, in the attempt to readjust the curriculum to the needs of the new high-school constituency a definite conflict developed between the interests of general education and the interests of vocational education. This unfortunate conflict of interests explains why the Federal Board for Vocational Education was originally organized as a body separate from, and entirely independent of, the United States Office of Education. Since its establishment the board has pursued policies which indicate a certain hostility to general education and an unwillingness to co-operate in a thoroughgoing reconstruction of the curriculum.

The transfer of the functions of the Federal Board for Vocational Education to the Office of Education should, and no doubt will,

make it possible for that office to work out a co-ordinated, balanced educational program which will provide adequate opportunities for both general and vocational training.

SIGNIFICANT NEW EVIDENCE ON INDIVIDUAL
DIFFERENCES IN MENTAL GROWTH

For a number of years Frank N. Freeman, Professor of Educational Psychology at the University of Chicago, has been carrying on an investigation of the mental growth of children. Most of the evidence on mental growth has heretofore been based on mass scores from groups of children of different ages. Professor Freeman's investigation differs from earlier studies in that he utilizes the continuous records of one hundred children from childhood to maturity. The results of his investigation do not confirm the findings of earlier studies which indicate that slower children reach the end of their mental growth earlier than do brighter children. Some of the general conclusions of Professor Freeman's study were presented in an article in the September issue of the *Scientific Monthly* under the title "Individual Differences in Mental Growth," from which the following statement is taken.

After a period of ten years a sufficient number of continuous records have been obtained to enable us to throw new light upon some of the problems of individual growth. On the particular problem which I have mentioned, a study of the growth of individual children does not confirm the conclusion from the earlier studies of mental tests that the slower children reach the end of their mental growth earlier than do the faster children. We are not able to report on mental defectives or even on children of low normal intelligence, but we can compare the growth of those who are somewhat below the average with the growth of bright children. We are able to show, for example, that some children, who get a slow start and are near the bottom of the entire group of pupils in the earlier years of the elementary school, continue to advance steadily well into the college period. In other words, there are some individuals who make a rather low standing during childhood because they get a slow start but who rise to a higher level in later adolescence because they continue at a steadier pace than some of those who get an early start.

If this were true only of a few isolated examples, it would not be of great educational importance, since our educational policies must be based upon the majority rather than upon a few exceptions. In order to find out whether such a case is only an infrequent exception or whether it represents the rule, a grouping was made of about one hundred children for whom we had continuous rec-

ords from eleven to sixteen years of age. We also had records on most of these children at ten years and at seventeen years. This entire group was divided into three groups based upon their scores on the test during the middle years. The average curve for each group was then drawn. These average curves indicate that there is a real difference in the mode of development of the bright and the slower pupils. They also show that the popular opinion concerning the growth of bright and duller children is more nearly right than is the opinion of most psychologists.

The children in the bright group begin to advance at an accelerated rate at about ten years of age. Their curve then advances more steeply for two or three years than do the curves of the other two groups. The curve of these bright children, however, begins to slow down sooner than do those of the others. None of the groups reach their complete development by seventeen years of age, so that it is impossible to say how far apart they will be when their growth reaches its final level. By seventeen years of age, however, the upper curve is slowing up, whereas the lower group of children are continuing to advance at an undiminished rate. This makes it seem certain that the pupils in the lower group will partly catch up with those who took the highest rank during the childhood period.

It would be a mistake to infer from these facts that we are unable to predict at all what the child's later mental attainment will be on the basis of his intelligence or his educational achievement in the elementary school or in the early part of the high school. Such prediction is possible, provided we allow a considerable margin of error and also provided we do not discount the possible future development of the pupils who make a moderate record in the early years. Our findings show that these pupils who are at the middle or even below the middle of their class will continue to advance as long as, if not longer than, will the brighter pupils of the class. Some of those who make a relatively poor showing in the earlier years will indeed gain so much on their faster comrades that they will make a decidedly better showing in high school or in college than we might have expected them to make. On the average, of course, pupils in the lower half in the elementary school will remain below in the high school, and few if any of those in the lower quarter are likely to go much beyond the high school; but some pupils in the lower half of their elementary-school classes may in the end outstrip other pupils who outshine them considerably during the childhood period.

In our prediction of pupils' later educational attainments and in our advice to them concerning their educational choices, we must make allowances for this fact and we must also give weight to the factors of character and purpose. We have been too inclined to think that the odds are all in favor of the bright and precocious child. We must now recognize that our prediction is not quite so certain as we thought it was and that the slower child may have possibilities of attainment that we have been inclined to deny him in the past,

WORK RELIEF FOR UNEMPLOYED TEACHERS

Federal Relief Administrator Harry L. Hopkins has authorized state relief administrators to pay work-relief wages to unemployed teachers provided such teachers are employed in rural schools which have been closed or drastically curtailed or provided such teachers are employed either in cities or in rural districts to teach adults who cannot read or write English. The expenditures from relief funds will be confined to the minimum needs of the teachers, and no relief money will be allowed for fuel, textbooks, or other school expense. In a release of the Federal Emergency Relief Administration for Illinois, Mr. Hopkins is quoted as having commented on this new relief measure as follows:

I consider this kind of work relief one of the most constructive applications of the principle of exchanging service to the community for public aid. . . . The need for relief to teachers is clearly apparent. Thirty-three states have reported through their education officials that approximately 80,000 teachers are unemployed. Some fifteen states have definitely reported shortened school terms, and in some districts this has meant curtailing them to the vanishing point.

While it is most emphatically not the intention of the Federal Emergency Relief Administration to subsidize the school system in any community or to relieve school officials of their responsibility, I believe that the expenditure of work-relief funds in the interests of destitute teachers will result indirectly in great community benefit

In many rural communities the complete closing of schools virtually means the disintegration of community life for children. No one will ever be able to make up the loss to the children who are deprived of education, for the plastic state of childhood mind comes but once.

Where schools are closed or terms are reduced to a month or two a year, despite increased enrolment, we have a great paradox. It is the expectation of the Federal Emergency Relief Administration that this paradox can be righted, in some part, by permitting the teachers to give their services on the basis of their relief needs.

The full text of Mr. Hopkins' communication to governors and state relief directors follows.

Your relief commission is authorized to use federal relief funds now available or to be made available by the Federal Emergency Relief Administration to pay work-relief wages to needy unemployed teachers or other persons competent to teach and assign them to classrooms up through the eighth grade, provided, first, that these teachers are assigned by the relief offices to appropriate

educational authorities who will have entire supervision over their activities, second, that they are assigned only to those schools which prior to this date have been ordered closed or partially closed for the coming school year because of lack of funds; third, this applies only to rural counties.

State relief administrations are also authorized and urged to pay from above funds relief-work wages to needy unemployed persons competent to teach adults unable to read and write English. This applies to cities as well as rural counties. Under no circumstances should relief funds be used to relieve counties of their proper responsibility for education, nor should these activities permit the substitution of relief teachers for regularly employed teachers.

REORGANIZATION OF UNITS OF ADMINISTRATION IN CALIFORNIA

The following statement by Vierling Kersey, superintendent of public instruction of California, was published in a recent issue of *California Schools*. It indicates that the problem of district reorganization in California will have immediate and positive attention.

For a score or more of years educational leaders, committees of school administrators, and educational associations and organizations have recommended the improvement of California's plan of school districting. The purpose of such recommendation has been to secure improvement in educational opportunity for children, greater economy in administration and instruction, and improvement in the organization and administration of the state school system.

Representative groups of citizens, concerned primarily about school costs and recognizing the possibility of improving the organization and administration of our schools, have gone so far as to present to the legislature what were thought to be completely developed plans for school-district reorganization. In the development of these plans little attempt has been made to secure advice from those most familiar with the problem, namely, the professional educators. Obviously, it is equally as wrong to do nothing about this important educational matter as to permit those with but a partial view of the whole situation to endeavor to deal with the problem by means of compulsory redistricting legislation.

The questions involved are essentially and primarily those having to do with improvement of educational opportunity. Consideration of possibilities for effecting economies is of secondary importance. A review of proposals discussed in the past among educators and of plans submitted to the succeeding legislatures reveals that, in consideration of all the factors involved, really no thorough-going study has been made of the problem nor has any consistent endeavor been continuously undertaken to improve the present district organization under existing law.

A review of improvements in the field of educational administration and a study of the record of the schools of California in effecting economies indicates

that, while such further improvements in the plan of administration and such additional economies as may be effected by changes which are possible under existing legislation should be undertaken at once, no attempt should be made to effect a radical change in our system of district organization until after a thoroughgoing study has been made of the entire problem and a complete plan of action has been developed.

Certainly the various proposals that have been offered thus far must be given full consideration. The people of the state, in the last analysis, must decide whether any proposed plan is acceptable, otherwise no plan which may be proposed will be effective.

In order that this major problem may be considered in terms of the educational advantage to be gained for children, the State Department of Education proposes immediate study of the problem by a state-wide committee under the direction of the Department of Education.

GRAND RAPIDS APPLIES A SOUND PRINCIPLE OF ADMINISTRATION

During the past year many boards of education throughout the country have ignored one of the most obvious and, at the same time, one of the most fundamental principles of school administration. That principle is as follows: It is the function of the board of education, as representatives of the community, to determine the amount of money which the community shall spend for public education; it is the function of the superintendent of schools and his professional advisers to determine how the funds shall be spent. If a board of education does not have a superintendent whom it can trust to advise it with respect to the details of school expenditure, the board should secure a new superintendent and not attempt as a body to perform the duties which the superintendent was employed to perform.

The following editorial appearing in a recent issue of the *Grand Rapids Press* describes how the Board of Education of Grand Rapids, Michigan, in putting into effect an economy program, applied this very evident principle of administration.

Grand Rapids citizens may contemplate the reopening of their public schools . . . with a high degree of pride and satisfaction over the manner in which they are prepared to carry on in the face of adverse circumstances. Teachers have accepted severe salary cuts, and at the same time they will be carrying a heavier pupil load. Several principals will be virtually doubling up on their work. Yet it may be predicted that almost without exception the spirit and morale of the instructors will be maintained and that they will be ready to serve to the full extent of their ability.

We should not lose sight of the fact that an outstanding reason for the maintenance of morale here has been the wisdom of the Board of Education in delegating to educational administrators the task of making adjustments. Board Member Robert H. Merrill's comparison of the local situation with that in Chicago is decidedly to the point

In Chicago a politically dominated board blunderingly decided to take affairs into its own hands without regard to educational precedent or tradition. At a stroke it abolished junior high schools, turned back the educational calendar, and generally disrupted the established order. A similar process has been followed in many other cities.

In Grand Rapids, on the other hand, an intelligent, non-partisan board said to Superintendent Butler and his assistants: "We have just so much money with which to operate. It's up to you to determine how it will be spent." And the result has been a reorganization of the system in accord with modern educational standards and without the sacrifice of any essentials. The educational administrators have been allowed to solve their own problem to their own satisfaction rather than being forced to swallow arbitrary mandates of those whose knowledge of educational needs could not be equal to that of the educators themselves.

There still will be critics who will declare that this subject or that, this department or that activity, might be dispensed with. There always will be divided opinion on certain matters. But there can be little question but that the policy of permitting the educators to evolve their own program is best from the standpoint of maintaining the co-operation and efficiency of the teaching body. Let the public, through its representatives, decree economies if it must, but let the educators apply them. This the future undoubtedly will reveal as the wisest course.

AUTHORITY OF BOARDS OF EDUCATION TO CONDUCT CAFETERIAS
AND TO PREVENT PUPILS FROM LEAVING SCHOOL
GROUNDS DURING LUNCH PERIOD

The following decision was rendered recently by the Supreme Court of Nebraska (*Richardson v. Braham*, 249 N.W. 557).

This is a suit for an injunction to prevent the board of education, the superintendent, and the principal of the senior high school in the North Platte District from enforcing the following regulation:

"*Be It Resolved*, That the senior high school be and is a one-session school with a lunch period of not more than 25 minutes, and that no students be permitted to leave the school grounds between 9 A.M. and 3:05 P.M., except such students as live quite close to the high-school building, and whose parents request in writing that they be permitted to go home for lunch."

This regulation was adopted by the school board September 5, 1932, and by

its order was enforced for a time by the superintendent and principal of the school. Plaintiffs are parents of pupils.

Prior to the adoption of the regulation, Cora Haffner conducted a cafeteria adjacent to the school grounds, and it was patronized by some of the pupils. For the accommodation of pupils generally, the school district operated a cafeteria in the high-school building. A city zoning ordinance prevented other business enterprises near the school grounds, which were located a considerable distance from the business district of North Platte.

The principal grounds on which the injunction was sought may be summarized thus: mismanagement of high-school cafeteria; meals not warm; food not properly prepared; denials of requests to permit pupils to leave school grounds for noon lunch; interference with prerogative of parents to prescribe diet and select food for their children; enforcing patronage of high-school cafeteria and boycotting Haffner cafeteria; want of power to make the regulation.

The allowance of an injunction was resisted on the grounds that the adoption of the regulation was a proper and valid exercise of administrative power to control the public high school, the high-school property, and the pupils in the interests of public education, public health, public morals and public welfare generally, while the pupils are under the care and subject to the jurisdiction of the board of education, the superintendent, principal, and teachers.

The district court held that the regulation was void and rendered a decree enjoining the enforcement thereof. Defendants appealed.

The validity of the regulation is the question presented by the appeal. Much of the testimony adduced at the trial was directed to the motives of the school directors who adopted the resolution quoted. As a general rule the motives that prompt state law-makers, city councilmen, and members of administrative bodies, such as school boards, in exercising within reasonable limits power committed to them in the interests of the public, are immaterial. Power to act and reasonableness of action are proper tests of the validity of laws, ordinances, and regulations. Promptings of politics or partisanship in the enactment of a statute are not sufficient grounds for judicial interference with an act of the legislature. . . . Courts do not ordinarily inquire into the motives of a city council in exercising discretionary power. . . . To overturn a city ordinance on the ground that it is unreasonable and arbitrary or that it invades private rights, the evidence of such facts must be clear and satisfactory. . . . A regulation by a school board is analogous to an ordinance and is tested by the same general principles. . . . The wisdom or expediency of a rule adopted by a school board and the motive prompting it are not open to judicial inquiry, where it is within the administrative power of that body. . . .

The power of the school board to adopt rules and regulations was conferred by statute. The legislature had authority to bestow upon that body control and discretion in the ownership and use of school property. . . . The legislature authorized the organization of the school district of North Platte with all the

usual powers of a body corporate for public purposes, including the right to hold and control property for school purposes. The school is under the direction and control of the board of education. The school board has power to make rules and regulations, subject to the provisions of the law. . . . It has been held that parents may make for a child a reasonable selection from a prescribed course of studies. . . . There is also precedent to the effect that a law forbidding the teaching of any modern language, except English, in any private, denominational, parochial, or public school, to any child in a class below the eighth grade, is void. . . . During school hours, however, general education and the control of pupils who attend public schools are in the hands of school boards, superintendents, principals, and teachers. This control extends to health, proper surroundings, necessary discipline, promotion of morality, and other wholesome influences, while parental authority is temporarily superseded. Cafeterias are recognized adjuncts to public high schools. Some pupils come long distances and cannot return to their homes for noon meals. Resort of pupils to public eating places in business districts of a city beyond both parental care and the control of teachers may mar the work and defeat to some extent the purposes of public education.

The evidence will not sustain a finding that food furnished at the school cafeteria did not conform to proper standards of food or diet for pupils. Children residing near the school grounds were permitted to return to their homes for their noon meals. Other pupils were not prevented from bringing food from home or from eating in the school building. The evidence does not prove that the regulation was unreasonable or arbitrary or harmful as enforced. A lawful regulation in the interests of the public may lessen the profits of private enterprises and decrease the value of property devoted thereto. A zoning ordinance may have that effect. . . . This doctrine is too well settled to require extended discussion. The cafeteria adjoining the high-school grounds, though properly conducted, does not have a vested right to the patronage of high-school pupils.

While there may be some diversity of judicial opinion on the subject, the better view seems to be that a board of education having power to make rules and regulations for the conduct and management of public schools may provide for one session daily and forbid pupils to leave the campus during school hours. *Flory v. Smith*, 145 Va. 164, 134 S.E. 360, 48 A.L.R. 654; *Christian v. Jones*, 211 Ala. 161, 100 So. 99, 32 A.L.R. 1340. The regulation under consideration does not go that far but permits pupils residing near the high school to take their noon meal at home. For the reasons stated, plaintiffs did not make a case for an injunction. The judgment of the district court is reversed and the suit dismissed.

WEEK-DAY RELIGIOUS INSTRUCTION ON RELEASED SCHOOL TIME

In most, if not all, of the states there are constitutional or statutory provisions which prohibit religious or sectarian instruction in

the public schools. In order that parents desiring to do so may arrange for their children to receive week-day religious instruction, it has become the custom in a good many communities to permit pupils to attend week-day church schools during regular school hours. Two pamphlets recently issued by the United States Office of Education should be helpful to superintendents or others who may be interested in conducting or establishing classes for the religious instruction of pupils during school time. The first of these, entitled *Week-Day Religious Instruction* (Pamphlet No. 36), reports the findings of a survey of current practice with respect to week-day religious instruction, the findings being based on replies to inquiries received from 2,043 superintendents of schools in cities and towns having populations of 2,500 and more. The information gained from these replies has been summarized under the following headings: "How General Is the Practice of Releasing Pupils from School To Attend Classes of Religious Education?" "How Long Have School Systems Been Co-operating in These Programs?" "How Are the Classes for Religious Instruction Organized and Administered?" "From What Grades Are the Pupils Released?" "What Proportion of the Public Schools within a City Are Co-operating in the Program?" "Where Are the Classes Conducted?" "Time Allowed for Classes in Religious Education," "Public-School Participation," "How Many Children Attend Classes for Religious Instruction?" "Programs for Children Not Electing Religious Instruction."

The following statement indicates the extent of the practice of releasing pupils from school to attend classes of religious education.

Reports for this survey from 2,043 towns and cities show that pupils are released from the public schools in 218 cities and towns of 35 states. These 35 states in which the cities co-operating in this work are located represent all sections of the country—6 in the East, 12 in the South, 11 in the Middle West, and 6 in the West. New York has the largest number of the cities, 45 of the 218 reporting classes in religious education; Ohio the next largest with 21, Wisconsin and Minnesota next with 19; Illinois, Indiana, Kansas, and Pennsylvania each has from 10 to 13 cities; Michigan has 8 cities; Oklahoma, 6, Iowa and Utah, 5; Idaho, Kentucky, and New Jersey, 4; Oregon, Rhode Island, and West Virginia, 3; Arkansas, Connecticut, Louisiana, Missouri, North Carolina, South Dakota, Texas, and Virginia, 2; and 1 city in each of the remaining 9 states.

The [accompanying table] shows the representation of cities of all population sizes in this study—the number now carrying on the classes under discussion, the number that have had such classes but have discontinued the work, and the number that have never co-operated in this type of program.

WEEK-DAY RELIGIOUS INSTRUCTION ON RELEASED SCHOOL
TIME FOR PUBLIC-SCHOOL PUPILS

POPULATION SIZE OF CITIES	NUM- BER OF CITY AND TOWN SCHOOL SYS- TEMS	REPLIES RECEIVED TO INQUIRY		REPORTS OF 2,043 SCHOOL SYSTEMS					
				Release Pupils		Discontinued Releasing Pupils		Never Re- leased Pupils	
		Num- ber	Per Cent	Num- ber	Per Cent	Num- ber	Per Cent	Num- ber	Per Cent
100,000 and more.	93	70	75.3	11	15.7	2	2.9	57	81.4
30,000-99,999	233	174	74.7	24	13.8	11	6.3	139	79.9
10,000-29,999	672	481	71.6	56	11.6	27	5.6	398	82.8
5,000-9,999	850	612	72.0	52	8.5	48	7.8	512	83.7
2,500-4,999	1,316	706	53.6	75	10.6	61	8.7	570	80.7
Total . . .	3,164	2,043	64.6	218	10.7	149	7.3	1,676	82.0

The second pamphlet (No. 39) to which reference has been made is entitled *Laws Relating to the Releasing of Pupils from Public Schools for Religious Instruction*. It summarizes statutory provisions, court decisions, and rulings of state attorney-generals with respect to the legal principles involved in releasing pupils from school to attend upon week-day religious instruction. At present seven states (Illinois, Iowa, Michigan, Minnesota, Oregon, South Dakota, and West Virginia) have laws in force which specifically permit the releasing of pupils from public school in order that they may attend religious instruction in churches or church schools. In three states the courts have passed on the legality of this procedure. In Vermont it has been held that a board of education has authority to refuse to excuse pupils from school attendance on certain holy days. In the state of Washington the court refused to require a superintendent of schools to give school credit for Bible study outside school hours although the teachers of the school system were to furnish an outline for the course, give the examinations, and mark the papers. The court reasoned that such a practice would violate

a constitutional provision which prohibited the appropriation of public money for religious instruction "or the support of any religious establishment." Moreover, it was held that the proposed practice would violate the constitutional provision that all schools supported by public funds shall be free from sectarian control or influence. In New York, on the other hand, it has been held that pupils *may be excused for thirty minutes in the afternoon one day each week for the purpose of receiving religious instruction in the churches of their various religious faiths.*

PRIVATE ELEMENTARY SCHOOLS IN THE UNITED STATES

The United States Office of Education has recently published the following statement with respect to private elementary schools in this country.

In the first study of private elementary education ever made on a nation-wide basis, the United States Office of Education accounts for nearly 2,000,000 pupils in a little less than 7,000 private elementary schools. This figure represents about 80 per cent of the total number of children in private elementary schools, which is estimated to be between two and three million, or one in every ten school children in the United States. Roman Catholic schools register by far the largest number of these, while the non-sectarian schools are next with a total reported enrolment of more than 50,000. . . .

In 14 states and the District of Columbia private elementary-school enrolment is more than 10 per cent of the total public and private elementary-school registration. New Hampshire and Rhode Island are first with more than 21 per cent each; Massachusetts, Delaware, Connecticut, Wisconsin, and New York have from 14 to 16 per cent; Pennsylvania, New Jersey, Illinois, Ohio, and the District of Columbia have from 12 to 14 per cent; while Maine, Michigan, and Maryland have from 10 to 12 per cent. New York, with 293,337 children reported in private schools, leads all other states in total private elementary-school enrolment. Pennsylvania is next with an enrolment of 254,459.

Ninety-one per cent of all private elementary schools reporting to the United States Office of Education for this study have some religious denominational affiliation or control. Reports from nearly 6,000 Roman Catholic schools in 47 states and the District of Columbia show an enrolment of 1,730,670 pupils. Sixty-one Episcopal schools in 22 states reported an enrolment of 3,716 pupils; 40 Methodist schools in 21 states reported an enrolment of 2,298, 36 Seventh Day Adventist schools in 16 states, 2,269; 31 Presbyterian and 20 Baptist schools in 14 states each, 2,028 and 1,391, respectively. Thirty-five Friends schools in 10 states, reported an enrolment of 4,967 pupils, 15 Lutheran schools in 6 states, 1,462; and 10 Congregational schools in 5 states, 958.

The 592 non-sectarian schools accounted for nearly 3 per cent of all children enrolled in private schools. New York, with 127 schools, Massachusetts with 61, California with 49, Pennsylvania with 48, and New Jersey with 42 were the leaders in the number of those schools reporting.

Much the largest enrolment in the private elementary schools is in the first grade. The next three grades enrol considerably fewer than the first, but the number remains approximately the same through the fourth grade, beginning then a steady decline through the eighth.

Reports show that approximately 60,000 teachers were teaching in private elementary schools in 1930-31. The number of pupils per teacher in all the private schools averages 39. The Roman Catholic schools average a few more than this number, the others considerably below 13 pupils per teacher.

Private elementary schools are generally smaller than are public schools in cities of 10,000 population and more, which enrol an average of 416 pupils. Private elementary schools affiliated with the Roman Catholic church, as reported in this study, enrol an average of 291 pupils, while the other schools reporting enrol an average of only 84 pupils per school.

These private elementary schools have a school year which approximates that of the average public school. In 1929-30 thirty-four states and the District of Columbia reported an average school year in their public elementary schools of 171.8 days. In the same year 775 school systems in cities of 10,000 and more reported an average school year of 186 days. The median school year in private schools falls between these two group averages.

The release also contains the following tabular statement.

Affiliation or Control	Number of Schools Reporting	Total Enrolment
Denominational:		
Baptist.....	20	1,391
Congregational	10	958
Episcopal.....	61	3,716
Friends	35	4,967
Lutheran.....	15	1,462
Methodist.....	40	2,298
Presbyterian.....	31	2,928
Roman Catholic.....	5,954	1,730,670
Seventh Day Adventist.....	36	2,269
Miscellaneous sects.....	21	1,502
Non-sectarian.....	592	50,786
Total.....	6,815	1,802,947

METHOD IN TEACHING SPELLING¹

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THE VALUE OF METHOD

As soon as a suitable body of words has been selected, spelling efficiency becomes, to a great degree, dependent on the method of teaching and study. Hilderbrant (6)² says that there are probably no "born spellers" and that persons who spell well do so because they have adequately directed their word experiences or their word experiences have been well directed by a teacher. Their attention has been called early in life to the correct arrangement of letters in words, and they have had adequate practice in using these words in practical written discourse.

The view has been advanced now and then, however, that children learn to spell "incidentally," that is, without specific instruction in the subject. To illustrate, a pupil who is taught to read and who, in learning to read, also learns to spell has learned spelling "incidentally." Evidence favoring "incidental" teaching of spelling rests on comparisons of results obtained under *poor* direct teaching and *good* incidental teaching in connection with reading and composition. It is not surprising that poor direct teaching does not yield good results. However, when incidental teaching is matched against good direct teaching, the results are uniformly favorable to the latter. Thompson estimates this gain at double the gain "to be expected as a function of general maturity and incidental learning" (18: 71).

The problem in teaching spelling is not to choose between *no method* and the *best method* but rather to choose the *best method* from the

¹ This is the first of a series of three articles dealing with the teaching of spelling which are to appear in the *Elementary School Journal*.

² The numbers in parentheses refer to the bibliography appearing at the end of this article. In case of quotations page references are also given.

many methods offered. The term itself ("method") is derived from the Latin *methodus*, which comes from the Greek *methodos*. In the Greek word, *met* means "after" and *hodos* "a way"; thus "method" indicates a general or an established way or order of doing anything. True method or *best* method has its basis in science; that is, it has been *proved* best. A person who is very skilful is sometimes said to be scientific and may be called "an expert." The value of method in spelling is the value of expert method in any other aspect of life. It gets the best results in the quickest possible time and in the most agreeable and beneficial way.

Poor progress in spelling may result from lack of study technique on the part of pupils. Gilbert (4) examined the eye-movements of a group of sixty-seven children made up of good spellers and poor spellers. Among the poor spellers he found many fixations, long and irregular pauses, and lack of systematic procedure. These pupils studied by small sections, going over and over the same ground, seeing many minute and unrelated details, but failing to grasp the word as a whole. In contrast, the good spellers studied each word as a unit or as a whole made up of related parts. The typical record of a good speller showed a relatively small number of fixations in orderly arrangement with few regressions. The pauses were short, and the unit grasped was broad.

The value of method in spelling was also demonstrated by Fulton (2). Her experimental group followed systematic method; her control group was given no study directions. The difference in method was the sole difference in the two groups. In the final test the experimental group spelled correctly an average of 98 per cent of the words; the control group, 73 per cent. In a retention test given three weeks later the experimental group averaged 96 per cent; the control group, 68 per cent. Every pupil in the experimental group did better than any pupil in the control group.

THE BASIS OF METHOD IN SPELLING

The science of biology (or of its derivative, psychology) supplies the basis of spelling method. Children learn to spell by seeing the letters of a given word or by hearing their sounds and by writing and speaking the letters in the order in which they are seen and heard. Seeing and hearing are forms of "impression"; writing and speaking

are forms of "expression." These two form the bases for four kinds of images: (1) the sight of a word, (2) the sound of a word, (3) the way it "feels" when written, and (4) the way it "feels" when spoken (17: 109).

Studies have been made to determine the share which sight, hearing, speech, and writing have in developing the ability to spell. Almost without exception, these studies show that the motor presentations which occur through the activity of the hand and the vocal organs are of great importance and that *the eye is far more important than the ear*. Gates and Chase (3) found that deaf children were superior in spelling to normal children of the same reading age. They considered this superiority a result of the more careful visual study of word forms.

Kellner, as cited by Burnham (1: 480), distinguished between the spelling of those words which are written as they are pronounced and the spelling of non-phonetic words. He considered the ear the supreme judge in spelling phonetic words; there the rule is, "Write as you speak." For non-phonetic words that vary in form from their sounds, the eye should be chiefly active, and the rule is, "Write according to the custom."

For thirty years the leading authorities in spelling have maintained that the muscle sense of the hands and the speech organs should go along with sight and hearing. These sense perceptions play the significant part in the comprehension, the retention, and the reproduction of words. Oral spelling may be rejected altogether in favor of exercises in writing words. This point is well made by Burnham (1). It is in the writing of words that the real test of ability comes. Forming motor images by writing produces fewer errors than are produced when visual imagery alone is used. *Writing is better than seeing*.

Smedley (15) says that the aim in teaching spelling should be to render so well known the most frequently used words that they will flow automatically from the point of a pen (or from the keys of a typewriter), requiring but little thought for their formation. He stresses the fact that the spelling of words is rendered automatic by writing them. The first acquaintance with a word may be through hearing and seeing, but the teaching for final retention should be through audio-visual-hand-motor memory.

In class study new words should be seen, heard, pronounced, and written. One type of association reinforces the other. Since writing involves both visual and kinaesthetic sensations, it is more effective than seeing, hearing, or speaking alone. It also has the advantage of being the form in which spelling functions in life. Doubtless there are children who do not need to do more than to write many words in order to master their spelling; yet the more complete method of presentation is better for most children and makes for retention in all (6: 381).

GENERAL METHOD OF TEACHING SPELLING

Two statements have already been made about spelling method: (1) that the best method is scientific and (2) that psychology is the basis of method. These statements are perfectly consistent because psychology is a branch of science. Scientific method has two main divisions. The first of these starts with a *problem*, goes next to facts, and from facts to a generalization which describes the facts and solves the problem. The proof of the generalization is tested by trying it out. One in possession of the proper, tested generalization can control results. His teaching is certain; it cannot fail. The second division of scientific method starts with an *objective*, goes to a plan or program consisting of a number of activities in definite order and of definite time duration, and ends with results. This division is called applied science. It is that part of scientific method in which the controlling generalization is tried out. It is to this division that spelling method properly belongs. Its controlling principles are those which arise from the science of psychology.

Three stages in the process of applied science may be observed: *planning*, *doing*, and *evaluating*. In the planning stage the teacher and the pupils select their objective and justify it (motivation). They next make an estimate of the situation, which includes an inventory of their own knowledge and skill, and indicate a standard which they expect to attain. Then they proceed to lay out a time schedule, adopt a technique, demonstrate that they can use the approved technique, and are thus ready to begin their task.

In the doing stage each pupil puts into effect the procedure which has been planned. At the end of the time period the results are measured and compared with a standard. If the results are not sat-

isfactory, one of two things may be done: (1) The process may be continued until the goal is reached. (2) A diagnosis may be made and the process altered entirely or in part.

In the evaluating stage the final results are compared with the accepted standard. The process is also examined critically, and suggestions for its improvement are made. Effort is made to find the difficulties of pupils and to understand why the difficulties exist. Methods for overcoming future difficulties are devised. Additional work toward the objective may be required by going over the process or parts of it, by adding to the materials to be taught, or by modifying the process and attacking the objective in a new way.

Most of the emphasis in teaching method is rightly put on the doing stage. The work should be systematic and may in general, when applied to spelling, follow directions such as these:

First, the attention of the children is called to the whole word on the board or in the book. The word is pronounced by the teacher and, if quite unusual or unfamiliar, by the children. The word is used in a sentence or defined. The teacher writes the word on the board in syllables, . . . The children are told to look away from the word and try to see it as it looks on the board. The word is spelled orally by individuals or by the class under controlled conditions. In either case oral spelling is preceded by a clear and accurate pronunciation of the word. Finally, the word is written several times [19: 71].

The plan described in the Eighteenth Yearbook of the National Society for the Study of Education (7) has been widely used. It begins with a pretest on Monday over the list prescribed for the week. On Tuesday the pupils study the words which they missed the previous day, the teacher directing their activity as necessary. Wednesday is devoted to retesting and to review and drill. Special attention is given on Thursday to individual difficulties. The unit is completed on Friday with a retest, usually in the form of timed sentences.

This system is methodical. Pupils are not called on to give unnecessary time to words which they already know, and the teacher is given opportunity to direct study and to discover special difficulties. The method also has its disadvantages. Nearly all the emphasis is put on spelling as such; that is, in getting the right letters in the right order. Little stress is placed on pronunciation or use. The plan is also somewhat over-formal. Every day has its assigned task;

every week a unit must be completed. This plan assumes that the units are of equal difficulty and demand the same time distribution week in and week out. It assumes uniform effort and response on the part of the pupils week after week. There is little or no chance for a teacher to introduce desirable variations in order to increase interest and to develop initiative. It is an inflexible plan, not in accord with modern theories of child freedom and self-activated instruction. It puts too much emphasis on group testing and not enough on individual learning.

The writers are not disposed to question the value of testing before teaching. Experiments have been made to determine whether it is more effective to test first and then study or to study first and then test. Without exception, these experiments show the superiority of the test-study plan. Kilzer (9) supplies typical proof. In a study of one thousand pupils in thirty-four schools in eight states, he found the test-study method significantly better than the study-test method. The number of misspellings were appreciably fewer in the test-study plan—about seventeen less on a hundred words.

Senour (14) also shows that satisfactory results can be obtained with the test-study method. His subjects were 694 pupils in Grades III–VIII. While the children did not attain complete mastery, their scores were close to perfect. At the end of one month they retained 94 per cent of the words; at the end of four months, 92 per cent.

Kingsley (10) furnishes definite support for the test-study method. As the result of two years' experience he says, "Fifty-five per cent of the pupils missed no words; 25 per cent missed one word; 10 per cent missed two words; 5 per cent missed three words; 1 per cent missed four words; and 1 per cent missed five words." He concludes that "to ask these pupils to spend a fifteen-minute study period on the lesson, before testing, would be to waste nearly 95 per cent of the time and, in some cases, actually to reduce the spelling ability. For a class of 30, figured as a business manager keeps time, 425 minutes of the aggregate 450 made no return" (10: 128).

The subject of spelling method has been well summarized by Zylve (21). She recommends teacher-directed study, the use of both lists and sentences in presenting words, visual aids, teacher-directed

review, and a time allotment of fifteen minutes daily for new words. She considers indispensable a variety of approaches—visual, auditory, motor. Her final plan continues the formal organization of materials on daily and weekly bases.

Excellent criteria for judging spelling method have been set up by Zirbes (20). She declares:

Any spelling method which does not meet the following requirements does not qualify for wide use: (a) The method must reach the individual poor spellers and raise the quality of their spelling markedly by every test. (b) The method must be practical and economical of time and labor. . . . (c) The method must take into account the necessity for later recall of words with definite review or relearning. . . . (d) The method must appeal to the responsibility of the pupil, enlist his best efforts, and develop his spelling conscience [20: 784-85].

GROUP METHOD VERSUS INDIVIDUAL METHOD

The question has often been raised whether it is more effective to teach several individuals simultaneously (the group method) or to teach individuals independently of each other. The group method doubtless represents common practice, while the growing tendency is toward the independent plan. It does not follow that either method should be followed exclusively; common sense inclines to the view that each has a place. The question really is: Which method should predominate and what is the proper place of each?

A clear description of the group method has been published by Keener (8: 31-32), a summary of which follows.

1. The teacher writes the word to be studied on the board. She pronounces the word distinctly, sounding each syllable. The meaning is next explained, and the word is used in a sentence. The teacher next spells it orally, noting the division into syllables.

2. The word is next spelled with the pupils in concert, and attention is called to difficult parts. The word is then erased from the blackboard, and the pupils write it on paper. The teacher then spells the word orally, and the pupils check their spelling.

3. After all the words have been studied in this way, the pupils are tested. Each pupil keeps a list of the words that he missed. The study of these words is directed for each pupil independently. At the end of the week the pupils are tested over all the words they have been taught during the week.

Keener likewise gives the characteristics of the individual method (8: 32). A summary of his description is as follows:

1. The pupils are first tested on twenty words. Each pupil keeps a list of the

words that he missed, and these words become his individual study lesson for the week.

2. Each pupil is trained to study his own lesson by (a) pronouncing the words in a whisper, (b) learning the meaning, (c) using the words in sentences, (d) spelling the words in a whisper, (e) checking his spelling against the correct forms of the words, (f) writing the words on paper, and (g) repeating the process until sure of the spelling of each word.

3. As a final step, the pupils are tested individually over their lists, and a second list of words missed is kept. These they proceed to study as before, together with words missed in other subjects.

As a result of an experiment to determine which method is the better, Mr. Keener found individual instruction slightly superior "when all grades were combined." This superiority existed even when "teachers were more skilled in using the group method" (8: 35). When one teacher taught first one method and then the other, she was more successful with the individual plan. The testimony of the teachers was markedly in favor of the individual method. The author advises this method, particularly for Grades IV-VIII.

Keener's findings failed to substantiate the earlier study of Pearson (13). The latter conducted four experiments in Grades IV, V, and VI "to compare the effectiveness of a series of recitations of the customary or independent type with a series of the class-study type" (13: 50). In three experiments he found the class method to be superior. In his fourth experiment he allowed fifteen minutes a day for class study and twenty-five minutes a day for individual study. Despite the larger time allowance for the individual plan, he found "that the class-study method was about as efficient as the independent-study method" (13: 66).

The writers of this article make no attempt to reconcile or to explain these differences. Learning is individual, and the best method has been found when conditions are set up in which each pupil has the most favorable opportunities to learn what he does not know and should know. The time factor should necessarily be considered, and the matter of retention or permanence should not be overlooked.

Time may often be conserved by teaching the class as a unit, but in the last analysis each pupil should know how to work effectively when working alone. A system which integrates the two plans and

takes the best of both seems most promising. In any event the teacher should be free to vary the method from day to day as the pupils' needs demand and to vary at will the relative emphasis put on each plan. Common needs may be met economically by class teaching; individual needs may be best served when the pupils work independently of each other under the direction of the teacher.

SPECIFIC ILLUSTRATIONS OF SPELLING PRACTICES

Approved procedures may be further illustrated by referring to specific practices. Mcarns (12) reports on a method in which improvement was significant and in which wide distribution disappeared and there were no "poor spellers." The main steps in his plan included (1) selection of a tested, socially useful list of words, arranged in the order of grade difficulty; (2) dictation of a small portion of the list as an inventory test; (3) a pupil check on errors from the teacher's oral spelling; (4) pupil recording of individual errors; (5) pupil study of misspelled words only; and (6) teacher dictation to test retention, followed by the repetition of the third, fourth, and fifth steps.

The class method used at Amsterdam, New York, has been described by Springsteed (16). The teachers employ the test-study plan. The words are first dictated. Each pupil then checks his own work against the list which has been put on the blackboard. He draws a line through every word which he has misspelled and then writes out the correct form. The meanings of the words are next taught. The pupils then study their own lists. The individual plan as used in the same school system is also described. The pupil pronounces the first word on his personal list and acquaints himself fully with its meaning. He then spells it orally, checks his spelling against the correct form, and repeats the word four or five times until he is sure that he knows it. His next act is to write the word, repeating this act until it becomes automatic. The teacher gives special help to pupils having difficulty.

The work of Miss Martin (11) may be cited as a final example of modern practice. She made assignments over an extended period of time and required the careful use of uniform record books. One day a week was set aside for review and trial lessons. Most of the stress was put on teaching rather than on testing, and the problems of

each child were considered individually. Class and individual records were charted and kept in view. The children were encouraged to surpass their own past records. Interest was kept up by varying the kinds of activities.

A difference of opinion exists as to the wisdom of calling the attention of the pupils to difficult parts of words. Miss Springsteed opposes the practice because "the type of error made by pupils varies to such an extent that common study to avoid certain errors is unwarranted" (16: 294). Guiler (5) recommends analysis of difficulties in order that the teacher may know where to focus attention. The practice is in the direction of marking the difficult parts, but the value of this procedure has not been proved experimentally. Probably the procedure is of minor importance, occasionally effective and at times of no value. The teacher must decide whether or not to use it as she thinks best in a particular situation.

This discussion may be brought to a close by saying again that systematic method in teaching spelling adds greatly to results. The method has been well formulated. It makes appeal to sight and to hearing and requires directed expression in speaking and writing. Pretesting is essential in order that no time may be lost in the study of what the pupils already know. Common needs should be cared for by teaching in groups, but the greatest economy comes from teaching in terms of individual needs and through independent activity.

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FACTORS RELATED TO THE GRADE PROGRESS OF PUPILS

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Progress through the grades is one of the most serious aspects of the school life of a child. In spite of its seriousness, it has only recently gained significant recognition because, before the development of child-accounting techniques, there were no adequate means of centering attention on this problem. In recent years, however, considerable attention has been given to the study of the grade progress of pupils, and this study has revealed the importance to the child of continuous progress through the grades. Investigations of truancy have shown that a large portion of truants have been required to repeat grades. Failure and repetition of work are also frequently associated with social maladjustment and the development of undesirable attitudes toward the school. It is natural, therefore, that truancy should result from excessive retardation.¹ Certain studies have indicated that retardation may have an undesirable effect on the achievement of pupils. A recent report from Philadelphia suggests that repetition of grades more frequently causes reduction than acceleration in the rate of achievement.² It has also been shown that the child who is retarded in his grade progress tends to leave school at an earlier age than does the child who makes normal progress through the grades.³ These facts indicate that grade progress is of considerable importance to the individual child, and they reveal the

¹ Edna Willis McElwee, "Study of Truants and Retardation," *Journal of Juvenile Research*, XV (July, 1931), 209-14.

² A study made by W. Walker Cheyney and Philip A. Boyer and reported in mimeographed form. Extracts quoted in *Elementary School Journal*, XXXIII (May, 1933), 647-51.

³ *Five Unifying Factors in American Education*, pp. 189-99. Ninth Yearbook of the Department of Superintendence. Washington: Department of Superintendence of the National Education Association, 1931.

need for a greater knowledge of the causes and the consequences of retardation.

In an attempt to determine those personal qualities that are associated with retardation and acceleration in grade progress, all twelve-year-old pupils in two Newark schools were examined to determine their mental ability, achievement, health, school attendance, social status, and character traits. There were in the two schools 193 twelve-year-old pupils enrolled in Grades IV-VIII. All these pupils were given the Otis Self-administering Tests of Mental Ability and the Stanford Achievement Tests in reading and arithmetic. They were also scored on the Sims Score Card for Socio-economic Status. They were given careful physical examinations by the school physicians and were rated by their teachers on selected character traits. The data relating to each of these qualities or conditions were studied in relation to the grade placement of the child. These data were divided into groups on the basis of the grade placement of the pupils, and the scores or ratings for each group were distributed and studied. The correlations between these ratings and grade placement were also determined.

MENTAL ABILITY AND GRADE PLACEMENT

As would be expected, the data showed a close relation between mental ability and grade placement. The correlations between mental age and grade placement were $.77 \pm .025$ in School 1 and $.72 \pm .034$ in School 2. Table I shows that in both schools the median mental age increased with the grade placement. In School 1 the median mental age ranged from eight years and ten months in Grade V to fourteen years and nine months in Grade VIII; in School 2, from eight years and five months in Grade IV to thirteen years and eight months in Grade VIII. Because all pupils were of approximately the same chronological age, the relations between intelligence quotient and grade placement were almost identical with the relations between mental age and grade placement. The median intelligence quotient rose with the grade placement of the pupils in both schools, and the correlations between these two factors were $.75 \pm .027$ and $.69 \pm .038$ in School 1 and School 2, respectively.

These facts indicate that, on the whole, these pupils were fairly

well placed in relation to their mental ability. There were exceptions, however. Three children in Grade VI in one school had mental ages above those of nine pupils who were in Grade VIII. Four fifth-grade pupils in the other school had mental ages above those of eight seventh-grade pupils, and the mental ages of the four fifth-grade pupils were as high as those of five pupils in Grade VIII. Several of the pupils in the lower grades with high mental ages also made higher achievement scores in reading and arithmetic than did

TABLE I
MEDIAN MENTAL ABILITY OF 103 TWELVE-YEAR-OLD PUPILS IN
GRADES IV-VIII IN TWO SCHOOLS

GRADE	NUMBER OF PUPILS		MEDIAN MENTAL AGE IN YEARS AND MONTHS		MEDIAN INTELLIGENCE QUOTIENT	
	School 1	School 2	School 1	School 2	School 1	School 2
IV.	0	2	. . . . .	8-5	. . .	67.5
V.	15	14	. . . . .	9-8	71.9	76.3
VI.	17	31	11-7	10-10	93.8	86.5
VII.	45	24	12-3	13-0	99.3	106.3
VIII.	32	13	14-9	13-8	116.8	110.6
All grades	109	84	12-8	11-6	100.0	92.9

pupils in higher grades. These facts indicate the need for accurate information and careful consideration of individual cases when grade placements are determined.

ACHIEVEMENT AND GRADE PROGRESS

The Stanford Achievement Tests in reading and arithmetic were used to determine the relation between achievement and grade placement. The results of these tests showed a relation similar to that existing between mental age and grade placement. In one school the correlations between grade placement and both arithmetic and reading were slightly higher than the correlation between grade placement and mental age, but the situation was reversed in the other school. Although there was little difference in the correlations for reading and arithmetic in either school, the slight difference that existed favored arithmetic. This fact indicates that in these schools

arithmetic served as a determiner of grade progress to a slightly greater extent than did reading. In School 1 the correlation between grade placement and arithmetic was $.72 \pm .031$; between grade placement and reading, $.71 \pm .031$. In School 2 the correlations were $.79 \pm .026$ between grade placement and arithmetic and $.73 \pm .033$ between grade placement and reading.

The median achievement scores for the five grades, which are given in Table II, also indicate a close relation between achievement

TABLE II
MEDIAN ACHIEVEMENT IN ARITHMETIC AND READING OF 193
TWELVE-YEAR-OLD PUPILS IN GRADES IV-VIII
IN TWO SCHOOLS

GRADE	NUMBER OF PUPILS		MEDIAN ARITHMETIC AGE IN YEARS AND MONTHS		MEDIAN READING AGE IN YEARS AND MONTHS	
	School 1	School 2	School 1	School 2	School 1	School 2
IV	0	2	.....	9-6	.....	9-11
V	15	14	10-11	10-0	9-8	10-3
VI	17	31	12-6	11-8	11-3	11-5
VII	45	24	12-8	12-8	12-8	12-5
VIII...	32	13	14-6	15-1	15-1	14-11
All grades...	109	84	12-11	11-10	12-8	11-8

and grade. The median scores increase with the grade. Although there was a close relation between achievement and grade progress, the same glaring discrepancies appeared which were found in the case of mental age and grade placement. Twelve-year-old pupils were found in the lower grades whose achievements were superior to those of pupils in the higher grades. In one school the reading-achievement scores of five sixth-grade pupils were superior to those of nine pupils who were in Grade VIII.

Apparently ability and achievement were the chief bases of grading pupils in these schools, but there were instances in which some other factors had evidently determined the grade placement, as is illustrated by the case of two twelve-year-old pupils in one of the schools. A boy with a mental age of 15-8, a reading age of 14-4, and an arithmetic age of 16-3 was in Grade VI A, whereas a girl with a

mental age of 14-2, a reading age of 13-11, and an arithmetic age of 13-11 was in Grade VIII A. The boy was in every instance considerably superior to the girl, although he was placed two grades below her.

HEALTH AND GRADE PROGRESS

The influence of health on school progress was determined by physical examinations. The children were weighed and measured, and their hearts, lungs, eyes, ears, and teeth were examined by school physicians. The results showed no significant relations between school progress and weight and height. The correlation of weight with school progress was $.12 \pm .07$, and there was less than two pounds difference in the median weight of fifth-grade and eighth-grade pupils. The two pupils who were in Grade IV, however, were considerably lighter than the average twelve-year-old pupil. One was ten pounds and the other eight pounds below the median for twelve-year-old children. Although in every other respect their health records were excellent, the great differences in the weights of these two children suggest that physical condition may have affected their school progress.

The data revealed no relations between school progress and hearing, vision, heart, glands, teeth, or the condition of the nervous system. Most of the pupils had good health records regardless of their grade placement.

ATTENDANCE AND GRADE PROGRESS

School attendance was but slightly related to grade progress. The children in Grade V of one school had been in school for an average of 12.5 terms; those in Grade VI, 14 terms, and those in Grade VII, 14.7 terms. In these three grades the grade placement increases with the number of terms attended. The children in Grade VIII, however, had attended school for an average of only 13.9 terms, or less than the average number of terms attended by children in two of the lower grades. The figures for the other school show these same trends. These data suggest that the number of terms in school affects grade progress only to a certain point and that superior ability or opportunity may modify the effect of school attendance on grade progress.

The number of terms during which these children had attended

each of the two schools was studied in order that any possible relation between constancy of attendance in a single school and grade placement might be discovered. In one school there was a negative relation: the higher the grade, the less the number of terms spent in that school. The other school showed a positive relation: the greater the number of terms spent in that school, the higher the grade placement. These contrasting facts reveal that different policies control grade progress in these two schools and in the contributing schools.

The relation between grade placement and the average number of days attended during the preceding three years was also studied. The results showed that attendance was slightly better in the higher grades, although there was no great difference in the attendance records of retarded and accelerated pupils.

SOCIO-ECONOMIC STATUS AND GRADE PROGRESS

Both schools showed some relation between socio-economic status and grade progress. The relation was not clear cut, however, and it appeared that many other factors could readily overcome the influence exerted by material environment of the home. Then, too, it is doubtful whether a great deal of confidence can be placed in the results of the Sims score card. In several instances brothers and sisters living in the same home secured scores that differed considerably. Either these children answered questions carelessly or without understanding, or they deliberately misrepresented the home conditions.

CHARACTER AND GRADE PROGRESS

An effort was also made to determine the relations between grade progress and selected character traits. Teachers rated each of the pupils on a five-point scale in honesty, personal appearance, initiative, industry, and attitude. The character traits were rated subjectively on the following basis: A = unusual, B = above average, C = average, D = below average, and E = outstanding deficiency. Because of the crudeness of the ratings, it was impossible to secure correlations or to judge the relations by means of the medians for each group. It was decided, therefore, to determine the percentage of pupils in each grade who were given ratings of A and B on each of the selected character traits. These percentages, given in Table III, indicate some re-

lation between character traits and grade placement. Pupils enrolled in the upper grades were given high ratings in greater numbers than were pupils in the lower grades. The relation was not clear cut, however, as the fifth-grade pupils secured high ratings with greater frequency than did sixth-grade pupils. This result may indicate a more liberal rating on the part of the teachers of Grade V, or it may indicate that there was no relation between character traits and grade placement. It is likely that a policy of liberal rating by the

TABLE III
PERCENTAGES OF PUPILS RATED IN GRADES V-VIII OF TWO SCHOOLS TO
WHOM TEACHERS GAVE RATINGS OF A AND B IN
FIVE CHARACTER TRAITS

Grade	Attitude toward School	Honesty	Initiative	Industry	Personal Appearance
School 1:					
V	29	57	7	29	29
VI	24	29	24	24	24
VII	39	32	32	27	40
VIII	66	81	56	63	75
School 2:					
V	21	21	21	21	14
VI	19	19	16	22	16
VII	71	83	17	50	46
VIII	62	85	31	54	46

teachers in Grade V accounts for the high ratings of the pupils in that grade, since in Grades VI, VII, and VIII there is a tendency for good ratings to increase with the grades.

SUMMARY

The study shows a definite relation between the grade progress of pupils and ability and achievement. It also indicates that a number of pupils were not correctly graded if achievement and ability are considered the proper basis for grade placement.

The data of this study show no significant relation between grade placement and health or socio-economic status. This lack of relationship may be caused by certain weaknesses in the data, or it may indicate that these factors are overshadowed in importance by intelligence and character traits.

Although the study shows some relation between grade progress and character ratings, it does not show the cause of this relation. It may be that poor character traits handicap the progress of children, or, on the other hand, it may be that retardation has encouraged the development of undesirable traits. There is a probability that poor character traits are both a cause and a consequence of retardation. A poor attitude toward the school or a lack of industry is frequently responsible for the repetition of a grade. On the other hand, repetition may result in discouragement and a sense of failure that will breed undesirable attitudes, discourage industry, and kill initiative. In spite of the fact that the exact relations between traits and grade progress are not shown, the very suggestion of a relationship merits the consideration of character in the determining of promotional policies. If grade failure and retardation have an adverse effect on character development, careful consideration must be given to every pupil failure lest character be sacrificed in order to maintain high standards of achievement.

To insure the best possible adjustments when making grade placements, school administrators must decide every case on its own merits. Social adjustments, health, and character development should be considered in connection with achievement and ability, and every effort should be made to secure the best possible adjustment for each child.

SCALING AND IMPROVING THE LESSON ASSIGNMENT

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Perhaps nothing serves to recall more vividly school days long past than does the "home-work assignment," which was more or less conscientiously attempted on the part of those who now, as parents, deplore the looseness and the lack of thoroughness of the "new school." How simple the old assignment! With what verve and dash and abandon the teacher would make such assignments as these: "The next three pages." "Sections 4, 5, and 6 for the next time." "Go on with what you are doing, but know more about it tomorrow, more about the Constitution." The claim might be made that there is no truer index, in brief, of the good (or poor) teaching of the "good old school" than the teacher's assignment of the lesson.¹

The new school has certainly wrought changes in the lesson assignment, although the assignment has by no means been discarded. One might be justified in stating that progressive ideas and methods in general have really dignified an old technique and discipline. "Contracts," with very definite bills of particulars to be mastered, are now accepted by the pupil. "Outlines" or "unit plans" guide the class through larger groupings of materials. "Problem" assignments imply the practice of searching through a variety of sources for relevant materials which are to be applied to the solution of a particular difficulty. Attractive "workbooks" entice the pupil farther and farther along the route of accomplishment. "Planning" is a most fundamental step in any purposeful pupil activity or enterprise. All these more recent terms are simply part of the progeny of "the next three pages." The point of departure and the motive, however, are focused on the pupil as a learner rather than on the teacher as a task-setter.

¹ Arthur Clifton Boyce, "Methods for Measuring Teachers' Efficiency," p. 68. *Fourteenth Yearbook of the National Society for the Study of Education*, Part 2. Bloomington, Illinois: Public School Publishing Co., 1915.

As an indication of the re-animation of an old institution, two recent and very helpful volumes have appeared. The following brief quotations may partially justify this immediate study.

And while the spirit of the assignment is changing and will change in accordance with changes in educational theory, it is doubtful whether the act of assignment will change in its essential features. Education is likely to proceed in the master-pupil relationship for all time to come because youth will remain youth and need guidance and direction in learning, and teachers will be needed to direct them in the learning process. . . .

Assignment of lessons is still fundamental in teaching. . . . Only the character of the assignment has changed; its fundamental importance as a technique of teaching remains.¹

Indeed, the assignment, broadly considered, is an aspect of instruction which is fundamental to all other phases of the teacher's work. . . .

The techniques of assignment-making, then, occupy a position of unique significance in effective teaching and merit the careful study of all who are engaged in educational work.²

METHODS AND ASSUMPTIONS IN MAKING A SCALE

The purpose of the study reported in this article was to formulate a ten-point scale to illustrate the relative merits of lesson assignments in the social studies taken from a large number of assignments actually set by teachers.³ It is assumed that there are differences in quality of assignments made, when a large number of assignments is considered, and that teachers are able to note such differences. It is also assumed that the teachers' judgments, given a large number, tend to be distributed in accordance with the normal-distribution curve. This technique also assumes as basic the axiom that differences equally often noticed are equal except when always or never noticed.⁴ Differences of ascending merit should, however, be so small that not all judges see them and not so large that they are always seen by all. If 50 per cent of a group of judges note Assign-

¹ Gerald Alan Yoakam, *The Improvement of the Assignment*, pp. 2-4. New York: Macmillan Co., 1932.

² William G. Carr and John Waage, *The Lesson Assignment*, pp. v, 3. Stanford University, California: Stanford University Press, 1931.

³ Excepting Assignment G (the best), which is supposititious.

⁴ G. S. Fullerton and J. McKeen Cattell, *On the Perception of Small Differences* pp. 12 ff. University of Pennsylvania Philosophical Series, No. 2. Philadelphia: University of Pennsylvania Press, 1892.

ment B as better than Assignment A, then, per contra, an equal percentage would note Assignment A as better than Assignment B. In this case Assignments A and B would be equal in merit. If the differences between the assignments, one as compared with another, are such that three judges out of four note such differences but one of the four does not, then such differences in quality of assignments would be ideal for purposes of according weights and would conform exactly to the connotation of one unit of median deviation on the base line of the normal-distribution curve of agreements in judgment. For purposes of scale-making, percentages of better judgments lying between 50+ and 100- may be transmuted into fractional units of probable-error (median) deviation. Such a procedure was followed in this study.¹

OBTAINING JUDGMENTS OF ASSIGNMENTS

More than two hundred lesson assignments for elementary-school and junior high school grades were collected from various sources.² About fifty of these happened to pertain to the social studies in Grade VII. By selective processes ten criteria for judging assignments were set up, and the opinions of one hundred students in education, teachers, supervisors, and principals concerning twelve of the fifty samples were recorded on the following form.

LESSON-ASSIGNMENT RECORD SHEET

Place in "order of merit" the twelve samples of lesson assignments. Do not allow length of assignment to influence you. Place the "poorest assignment" in Pile 1, the assignment "just a little better" in Pile 2, and so on until the "best assignment" is placed in Pile 12. Enter the order of placement below, according to letter (A, B, C, and so on). In determining "merit of assignment," hold in mind the following questions.

¹ Although not the same measure, the median deviation and the probable error are numerically equal for normal distributions. If the reader wishes a fuller exposition of such techniques, he should see any one of the following: Milo B. Hillegas, "Scale for the Measurement of Quality in English Composition by Young People," *Teachers College Record*, XIII (September, 1912), 12-21; Cyrus D. Mead, "Scaling Lessons Taught," *Journal of Educational Method*, VI (November and December, 1926), 115-19, 168-74; Cyrus D. Mead, "An Industrial Arts Lesson Scale," *Educational Administration and Supervision*, XVII (September, 1931), 429-45.

² For sources of assignments, see Charlotte Prichard Tinker, "Studies in Lesson Assignments in Elementary Grades," chap. 8. Unpublished Master's thesis, University of California, 1932.

Does the assignment:

1. Grow out of lessons previously learned?
2. Allow for individual differences in ability?
3. Show relationship to a large topic or problem?
4. Demand the use of pupil initiative?
5. Stimulate to maximum effort?
6. Demand the use of discriminative judgment?
7. Indicate how the pupil is to proceed?
8. Demand social responsibility?
9. Call for pupil co-operation in planning?
10. Demand creative effort?

I have placed in "order of merit":

In Pile Number	The Assignment Lettered
1. Poorest
2.
3.
4.
5.
6.
7.
8.
9.
10.
11.
12. Best

Before returning samples of assignments, or handing to someone else, re-place in A-B-C order, so your placement order will be broken.

It is an interesting observation that, when attempts are made to note differences in quality of similar products (from very poor to very good), ten somewhat distinct differences can be noticed but that, when the degrees of difference exceed ten or eleven, some samples begin to be rated as equal or near equal. Such was the case in the attempt to distinguish differences in quality of the lesson assignments. It was found that two pairs of the twelve piles, each assignment to the other within the pair, were nearly alike, A and L, and C and F. A and C were consequently discarded, and ten samples remained from which the scale was constructed. Twenty judgments which deviated more than twenty-four points from average pile placements were discarded. The rank order of the total pile place-

ments by eighty judges was re-determined, and the percentage of times each assignment was found better in quality than the preceding assignment was reckoned. These percentages were then transmuted into fractional units of probable error, the normal curve of distribution being assumed. Table I is an epitome of these proce-

TABLE I
SCALE OF VALUES OF TEN LESSON ASSIGNMENTS ACCORDING
TO RATINGS GIVEN BY EIGHTY JUDGES

ASSIGN- MENT*	ORDER OF PLACEMENT (1 IS THE POOREST)	AVERAGE PILE PLACEMENT	GIVEN BETTER RAT- ING THAN PRECEDING ASSIGNMENT BY EIGHTY JUDGES†		PE VALUE WITH REFERENCE TO PRE- CEDING ASSIGN- MENT	PE VALUE WITH REFERENCE TO ASSIGN- MENT B	FINAL VALUE WITH REFERENCE TO ZERO POINT
			Number of Times	Percentage of Times			
B . . .	1	1.37	...	...	0 00	0 00	5.00
I . . .	2	3.60	68	85.0	1 54	1 54	6.54
E . . .	3	3.92	43	53.8	15	1 69	6.69
II . .	4	4.91	42	52.5	.07	1.76	6.76
K . .	5	5.41	43	53.8	.15	1.91	6.91
F . .	6	6 02	47	58 8	.34	2 25	7.25
D . .	7	7 17	51	63.8	.53	2 78	7 78
J . . .	8	8 61	54	67.5	.65	3 43	8 43
L . . .	9	9 96	57	71.3	.82	4 25	9 25
G . .	10	11 81	73	91 3	1 99	6 24	11 24

* Assignments A and C have been omitted

† This column is read as follows: 68 out of 80 judges, or 85 0 per cent, rated Assignment I as of better quality than the preceding assignment (Assignment B), etc.

dures, and a graphic presentation of the scale is given in Figure 1. The beginning value of 5.00 of Assignment B (the poorest) was arbitrarily set on the assumption that, if an assignment were found such

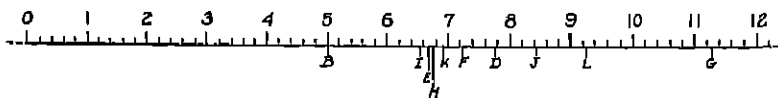


FIG. 1.—Scale values of ten lesson assignments

that 999 competent teachers out of 1,000 judged it poorer than Assignment B but one teacher considered it better than Assignment B, such assignment possessing *some* merit, then it would occupy at least five steps of probable-error deviation below the poor Assignment B—hence the hypothetical “zero point.”

THE LESSON-ASSIGNMENT SCALE

This scale is a somewhat rough and approximate measure. If, by extension of the procedure, sample assignments could be found at equal space intervals, a more ideal scale would perhaps be secured. The scale itself is, however, of no especial value unless it makes teachers "assignment conscious"; that is, the teachers should come to realize that the lesson assignment may play a very important part in the learning process and that, to be of value, it must be given serious time on the part of the teachers. The ten assignments composing the scale, together with their probable-error values, are given in the following paragraphs.

ASSIGNMENT B

[Given in high-seventh grade to a class in geography—value 5.00.]

Make the map on pages 12 and 13 and draw lines to show elevation in North America. Make the maps on 21, 31, 41, and 46.

This assignment was probably considered the poorest because it fulfilled none of the criteria by which the assignments were being judged. The teacher did not say how the pupils were to proceed, tell them what materials were to be used, call for any co-operation in planning on the part of the pupils, nor allow for any differences in ability. There was no evidence that the assignment grew out of any lessons previously learned. Rather, it appeared to be merely a "busy-work" assignment.

ASSIGNMENT I

[Given in seventh grade to a class in history—value 6.54]

"Tomorrow, children, you will have a test on the questions on the board."

1. The evolution of the United States as a world-power.
2. What must a nation possess at home and abroad in order to be called a world-power?
3. What disputes have been settled by arbitration?

[The hour was spent in summing up the answers to the questions. The teacher did a great deal of the talking and answered the questions of the pupils.]

The greater merit attributed to this assignment probably resulted from the fact that the words "tomorrow" and "test" tended to stimulate the pupils to maximum effort; thus, one of the criteria used was fulfilled. The questions asked also seemed to indicate that they grew out of lessons previously learned.

ASSIGNMENT E

[Given in high-seventh grade to a class in geography—value 6 69.]

Read pages 409-25 (Book II), and answer the following questions.

1. What are the divisions?
2. Of what importance is China proper?
3. What conditions favor manufacturing and trade?
4. What conditions favor agriculture?
5. What has made progress?
6. What are the promising changes?

Discriminative judgment was called for in answering Questions 2-6, inclusive, and possibly an interest in the country of China had been evinced or induced in previous lessons. There was no evidence that any of the other criteria used for judging were satisfied.

ASSIGNMENT H

[Given in seventh grade to a social-studies (English) class—value 6.76.]

Write a poem or story of California in the Spanish days.

More merit was accredited to this assignment because this type allows for greater elasticity in the use of individual ability and demands creative effort. There was the possibility that all the six following criteria might be satisfied: (1) grow out of lesson previously learned; (2) allow for individual differences in ability; (3) show relationship to a large topic or problem; (5) stimulate to maximum effort; (6) demand the use of discriminative judgment; and (10) demand creative effort.

ASSIGNMENT K

[Given in seventh grade to a class in history—value 6.91.]

On Monday we will have a discussion of the war with Spain. Read pages 548-54. These are points to look for: (1) what led up to the war, (2) the course of the war, (3) the negotiations for peace.

The fact that this lesson gave more indication of how the pupil was to proceed than the preceding assignments probably gave this assignment a higher place on the scale. It ran a close race with Assignment H because it was similar and had the same points in its favor, but it had the added merit of definiteness.

ASSIGNMENT F

[Given in seventh grade to a class in geography—value 7.25.]

Read chapter xxiii. Pick out the key words, and be ready to explain their significance. Study the following topics: (1) Germany's natural wealth com-

pared with other nations, (2) the chief reasons for her rapid progress, (3) her use of fertilizers, (4) the lowland regions, (5) valleys of the middle and southern Germany, (6) two chief crops, (7) other crops of importance, (8) uses of potatoes, (9) sugar-beet area, (10) why extensively cultivated in Germany.

This assignment provided for a diversity of pupils' interests. Much interesting discussion would probably grow out of these topics. Thus, allowance was made for individual differences in ability, use of pupil initiative, and use of discriminative judgment. The assignment possessed the added merit of definiteness.

ASSIGNMENT D

[Given in seventh grade to a class in history—value 7.78.]

Who of our great men were leaders? What kind of training did they have of value?

How might location make them think differently? Cite an example.

What is a compromise? Turn to index and find a compromise made later in our history. Was it best or not? Why?

Why did ratification of the Constitution require only nine states when the Articles of Confederation required *every* state to ratify an amendment?

Human interest in the lives and leadership of "our great men" may have influenced the judges to give this assignment a higher rank than that given preceding assignments. This assignment seemed more psychological than logical. The teacher worked from the children's interest in men to an interest in the affairs of men. There was provision for acceptance of varied amounts of work. One pupil might merely answer the questions concisely, while another would follow one or more into tangent fields of learning. It was, therefore, an elastic assignment. It was definite in indicating how the pupil was to proceed. It demanded the use of discriminative judgment and showed a relation to a large topic.

ASSIGNMENT J

[Given in seventh grade to a social-studies class (English)—value 8.43.]

Pretend you are taking a trip with Champlain or La Salle. Write a letter telling your experiences. It will be necessary to find out all you can about the person you take.

This assignment was a stimulating type of assignment which called for considerable pupil initiative and creative effort. It was definite as to procedure but allowed for discriminative judgment.

ASSIGNMENT L

[Given in seventh grade to a class in social studies—value 9.25.]

The seventh-grade class in social studies had been studying the colonial policy of Great Britain and had made a map of Great Britain's possessions. One day a week was given to current events, and the class was told to bring all references to Great Britain's interests in different parts of the world spoken of in one edition of the *San Francisco Chronicle*.

There is no doubt that this exercise grew out of previous lessons. It was well within the ability of the class, was definite, was planned to build up desirable habits in preparing for the current-events recitation. However, the writer believes that it did not merit a place above the assignments which called forth creative effort.

ASSIGNMENT G

[An assignment for a seventh-grade class in history—value 11.24.]

Teacher: "What explorers have we been studying?"

Children: "Boone, Pike, and so forth."

Teacher: "Are there any other pioneers or explorers that we ought to know more about?"

Children: "The ones who used the Santa Fe Trail, the Oregon Trail, and those who were in the Gold Rush."

Teacher: "Could you suggest how we might go about finding out about these pioneers?"

Children: "I think we should use the same outline which we used in studying Pike and the others."

[This plan was agreed to by the pupils. The following outline was read: "(1) Start. (2) Party. (3) Reason for going. (4) Route. (5) Experiences. (6) Results."]

Teacher: "Do we need to consider anything else before we go to work?"

Children: "Yes, let some of us study the Santa Fe Trail, some the Oregon Trail, and some the Gold Rush."

[This program was accepted by the group, and each child decided which of the three he preferred to study. Three groups were formed. Reference works were ready for each group.]

Pupil co-operation was shown in the planning of this assignment, and this fact may account for the high rank given this lesson. Allowance was also made for a choice of topics, which demanded the use of pupil initiative and of discriminative judgment. The assignment grew out of lessons previously learned and showed relation to a larger topic. It indicated how the pupils were to proceed, called for group responsibility, and was likely to lead to maximum effort.

GRADUATE WORK OF SUPERINTENDENTS

EDWARD WILLIAM DOLCH
University of Illinois

There is a steadily increasing sentiment that school superintendents need more professional preparation for their work than they ordinarily have. One method of securing such preparation is through individual study. Many books treating the problems of supervision are now available; the professional magazines give a wealth of fact and expert opinion, and each superintendent's own school system presents material for much thought and research. Another method of securing professional preparation is through work in the graduate schools of the large universities. Such work offers the advantage of guidance by experts and the assurance of certain standards of achievement. The amount of graduate work done by supervisory officers is steadily increasing, and it is to be encouraged without thought of detracting from the value of any individual study pursued. In fact, without that individual study, the work in higher institutions is likely to be barren of benefits because of the ever-changing conditions both in the country as a whole and in each particular situation.

To discover, if possible, how much graduate work was being done or had been done by school superintendents in Illinois, the writer in the school year 1932-33 conducted an investigation by questionnaire among these officers in the school systems of the state (outside Chicago) enrolling five hundred or more elementary-school pupils. Because of the system of independent high schools in Illinois, the superintendents are divided into two groups, those supervising only elementary-school districts and those supervising districts including both elementary and high schools. The data for these two groups are presented separately. Each group is also divided according to enrolment in order to show the effect, if any, of the size of the system. Finally, the superintendents are grouped according to their academic standing: (1) those without a first degree; (2) those with

a first degree only, that is, a degree given after a four-year college course; (3) those working for the Master's degree, including all those who have done work beyond the first degree but who have not received the second degree; (4) holders of the Master's degree; (5) those beyond the Master's degree, including all those who have done any graduate work after having received the Master's degree but who have not the third degree; and (6) holders of the Doctor's degree. Many individuals placed in the group "Working on Master's

TABLE I
ACADEMIC STANDING OF SUPERINTENDENTS IN ILLINOIS IN DISTRICTS INCLUDING ELEMENTARY AND HIGH SCHOOLS

ACADEMIC STANDING OF SUPERINTENDENTS	NUMBER OF SUPERINTENDENTS IN DISTRICTS WITH ELEMENTARY-SCHOOL ENROLMENTS OF—					
	4,000 and More	3,000— 3,999	2,000— 2,999	1,000— 1,999	500— 999	Total
Without first degree.	1	0	0	1	0	2
First degree only	0	0	0	1	1	2
Working on Master's degree	1	1	0	3	0	5
Master's degree only	2	2	2	4	3	13
Beyond Master's degree	2	3	2	4	4	15
Doctor's degree	1	0	1	1	1	4
Total	7	6	5	14	9	41
Total in state	7	6	5	14	11	43

degree" have done a year or more of graduate work, but the work has been so scattered that it cannot be presented for a degree. Many individuals listed as "Beyond Master's degree" have done several years of graduate work but have not worked specifically for the Doctor's degree.

The academic standings of superintendents in Illinois who have charge of districts including both elementary schools and high schools are shown in Table I. Special attention is called to the row of figures at the bottom of the table, which show that practically 100 per cent of these superintendents returned the questionnaire. The group is to be complimented on this splendid co-operation. The table shows that, of the superintendents without a first degree, one is in a system with an enrolment of four thousand or more and one

in a system with an enrolment of 1,000-1,999, or a total of two in this class. Again, seven superintendents in systems with enrolments of four thousand or more replied, and there are only seven such superintendents in the state; that is, the questionnaire returns for this enrolment group were 100 per cent.

The number of returns from the superintendents gives special significance to the large amount of graduate work reported. Even if the two superintendents who did not answer are placed in the groups without graduate standing, the figures show that, of a total of 43 superintendents, 32, or 74 per cent, hold the Master's degree or better. While the proportion of superintendents with graduate standing may not be so large in systems with enrolments of less than five hundred, it is clear that the larger systems in Illinois which require supervision of both elementary and high schools command the services of men with advanced academic standing.

The distribution according to size of school system shows no distinct tendency for the larger systems to favor superintendents with graduate work to a greater extent than do the smaller systems. Men with the Master's degree and with the Doctor's degree appear in systems of all sizes, as do men with little graduate work. Length of service in the same position does not have the influence here that might be expected. The average for the whole group is 8.4 years of service in the same position. There is no definite tendency for men with little graduate work to have been longer in their positions than others. Of the two men without first degrees, one has been in the same position for twenty-two years, the other for only five years. Two other men, each of whom has spent twenty-two years in his present position, have the Master's degree. There is now abroad a definite impression that graduate work is helpful in securing a position. It seems equally true that men have found graduate work helpful in holding positions. Of the four men holding the Doctor's degree, one was new in his position the year of this study, while the others have held their positions nine, ten, and seventeen years, respectively.

As already mentioned, the Illinois laws result in a system by which high-school districts independent of the elementary-school districts are often organized. It happens, therefore, that many superintend-

ents of schools have charge of elementary schools only and that the high schools attended by their graduates are directed by principals selected by separate high-school boards of education. Table II gives the data separately for this group of superintendents because the conditions affecting these administrators are somewhat different from those affecting the superintendents having charge of both elementary and high schools.

TABLE II
ACADEMIC STANDING OF SUPERINTENDENTS IN ILLINOIS
HAVING CHARGE OF ELEMENTARY SCHOOLS ONLY

ACADEMIC STANDING OF SUPERINTENDENTS	NUMBER OF SUPERINTENDENTS IN DISTRICTS WITH ELEMENTARY-SCHOOL ENROLLMENTS OF—					
	4,000 and More	3,000— 3,999	2,000— 2,999	1,000— 1,999	500— 999	Total
Without first degree. . . .	0	0	0	4	1	5
First degree only.	0	0	1	1	6	8
Working on Master's degree	1	0	4	11	7	23
Master's degree only.	1	1	1	8	8	19
Beyond Master's degree . . .	0	1	0	6	3	10
Doctor's degree.	1	0	0	1	0	2
Total	3	2	6	31	25	67
Total in state	6	3	7	36	61	113

An outstanding fact brought out by Table II is that only 59 per cent of the superintendents in this group answered the questionnaire. This percentage is fairly large as questionnaire investigations go, but it definitely affects the interpretation of this table. Inquiries made indirectly indicated that superintendents without degrees or with little graduate work were embarrassed by a questionnaire asking them to report their graduate standing. Some of those who reported that they had no degrees did so apologetically. As a result, the conclusion is inevitable that the degrees reported in Table II represent nearly all those held by the members of this group. The forty-six superintendents who failed to return the questionnaire probably hold no degrees at all or hold only a first degree. On this basis, it may be said that the table shows that 31 of the total of 113, or only 27 per cent, hold the Master's degree or better. When the distribution

according to size of school system is given consideration, it is found that the largest percentages of returns are from the systems with enrolments of one thousand or more. In these larger systems, forty-two out of fifty-two superintendents, or 81 per cent, replied. If it may be assumed that the ten who did not answer have no graduate standing, the conclusion is that twenty of these fifty-two superintendents, or 38 per cent, hold the Master's degree or better.

The difference in the amount of graduate work done by the group of superintendents having charge of both elementary and high schools and that done by the group supervising only elementary schools is striking. One reason for this difference may be the types of supervision required. The elementary schools are perhaps not thought of as presenting such difficult problems as do the elementary and high schools combined. In the eyes of school-board members at least, elementary-school problems are considered relatively simple, not demanding highly technical knowledge or preparation. Another reason for this difference in training may be length of service in the particular system. There is a strong tendency for the elementary-school superintendents to hold their positions for longer periods than the superintendents of elementary and high schools. The latter group of superintendents average 8.4 years in their present positions, while the group represented in Table II average 10 years. The elementary-school superintendents who did not answer the questionnaire average fourteen years (as shown by the *Illinois School Directory*, 1932-1933). It may be that school boards consider experience in elementary-school work a sufficient substitute, or at least a satisfactory substitute, for professional study. A third reason for the difference in the academic standing of the two groups may be the policy of graduate schools of education. Do these schools offer work which appeals to elementary-school superintendents as helpful or essential in their supervision?

Another item of interest brought out by this investigation is that about half the superintendents returning the questionnaire had majored in education for their first degrees. The remainder had majored for their first degrees in all the subjects of the curriculum, from classics to agriculture. Practically all the graduate work, however, was in education. Only seven of the holders of the Master's

degree and none of the holders of the Doctor's degree majored in other subjects. This result was to be expected from the demands of a supervisor's position.

SUMMARY

A questionnaire sent to all the superintendents of schools in Illinois (outside Chicago) in systems with elementary-school enrolments of five hundred or more shows that 74 per cent of the superintendents of elementary-school and high-school districts combined hold the Master's degree or better. Among the superintendents of elementary-school systems only, not more than 27 per cent can be shown to have the Master's degree or better, since those in this group who replied (59 per cent) cannot be said to be representative of those who failed to reply. The superintendents of elementary-school and high-school districts combined average 8.4 years in their present positions; the elementary-school superintendents who replied average 10 years; and those who did not reply average 14 years. School boards may in some cases consider length of service a substitute for graduate study. Half the first degrees and practically all the graduate degrees were secured in education.

Similar studies made in other states will be welcomed as giving further answers to the question: To what extent are superintendents of schools doing graduate work in order to secure better professional preparation for their positions?

SELECTED REFERENCES ON ELEMENTARY-SCHOOL INSTRUCTION

III. THE SUBJECT FIELDS—CONTINUED

This list of references is the third of a series relating to instruction at the elementary-school level. The first list, appearing in the September issue of the *Elementary School Journal*, contained items on the curriculum, methods of teaching and study, and supervision. The second list, published in October, contained items grouped under the following subject fields: reading, English, spelling, handwriting, the social sciences, and geography. The present list covers the remaining subject fields at the elementary-school level and is the last of the series dealing with elementary-school instruction.

ARITHMETIC¹

G. T. BUSWELL

The following bibliography differs from the preceding "Summaries of Arithmetic Investigations," compiled by the writer annually since 1925, in that the present bibliography makes no pretense of completeness but rather selects from the material in arithmetic those studies which seem most deserving of a place in a limited list. References dealing entirely with primary arithmetic are excluded because such references appear in the selected bibliography on kindergarten-primary education published in the April number of the *Elementary School Journal*.

The amount of material available for the year and a half covered in this bibliography is considerably smaller than it has been since 1925. The reasons for this lessened amount of activity in research in arithmetic are probably numerous, but it may result in part from a let-down in effort by the rather large group of contributors to the yearbook on arithmetic published by the National Society for the Study of Education in 1930. More significant than the reduction in

¹ See also Item 117 in the list of selected references appearing in the February, 1933, number of the *School Review*, Items 256 and 275 in the September, 1933, number of the *Elementary School Journal*, and Items 319, 326, and 330 in the October, 1933, number of the *Elementary School Journal*.

the number of articles is the fact that few references appearing during the last year and a half constitute major investigations. Most, although not all, of the studies reported are decidedly limited in scope and afford a meager basis for any final answer to the problems which they raise.

It is entirely probable that the smaller amount of research which is apparently in progress is a reflection of the reduced morale resulting from the present economic disturbance in education. While the demands on educators are undoubtedly increased by the readjustments necessitated by the recent emergency, the writer believes that the permanent loss to education through a reduction in research may bring consequences even more serious than those which may temporarily result from the depression. This period, when the publication of the results of research is hampered by lack of financial resources, is an excellent time to initiate major investigations which will extend over five or ten years. Although there is no assurance that resources for publication will be available after the studies have been completed, there is the certainty that research studies projected on such a scale will be worth publishing. The present bibliography is a strong argument for research pitched on a level decidedly higher than that characterizing recent studies.

418. BRUECKNER, LEO J. "Social Problems as a Basis for a Vitalized Arithmetic Curriculum," *Journal of Experimental Education*, I (June, 1933), 320-22.

Presents a list of problems from the field of social science which might be used in courses of study in arithmetic. A brief but stimulating argument for socialized arithmetic.

419. BRUECKNER, LEO J., and ELWELL, MARY. "Reliability of Diagnosis of Error in Multiplication of Fractions," *Journal of Educational Research*, XXVI (November, 1932), 175-85.

Shows that diagnosis of difficulty on the basis of an analysis of written tests containing single examples of given types is likely to be unreliable and invalid and does not furnish a safe basis for individual diagnosis. Recommends at least three examples of each type for an individual diagnostic test. A good report.

420. BURGE, LOFTON V. "Types of Errors and Questionable Habits of Work in Multiplication," *Elementary School Journal*, XXXIII (November, 1932), 185-94.

Shows percentages of pupils in Grades IV, V, and VI making each of 68 types of errors in multiplication. Study based on 2,577 pupils. Analysis of errors on test papers was supplemented by individual interviews, which furnished most of the data.

421. BUSWELL, GUY THOMAS. "Summary of Arithmetic Investigations (1931)," *Elementary School Journal*, XXXII (June, 1932), 766-73.
Summarizes fifty quantitative or critical studies which appeared during the calendar year 1931.
422. ENGELHART, MAX D. "The Relative Contribution of Certain Factors to Individual Differences in Arithmetical Problem Solving Ability," *Journal of Experimental Education*, I (September, 1932), 19-27.
Studies relation of each of the factors of intelligence, computation ability, and reading ability to problem-solving ability in Grade V. A good example of refined statistical treatment. A significant article worth careful reading by advanced students
423. *Evaluation of Arithmetic Textbooks*. California State Department of Education Bulletin, No. 19. Sacramento, California: State Department of Education, 1932. Pp. viii+28.
An analysis and evaluation of six series of textbooks in arithmetic. The best material of its kind which has come to the reviewer's attention. The method used will be helpful to any committee charged with selecting textbooks.
424. FORAN, T. G. "Drill in Arithmetic," *Catholic Educational Review*, XXXI (April, 1933), 232-43.
A critical summary of certain investigations relating to drill plus a thoughtful discussion of the entire function of drill.
425. GROSSNICKLE, FOSTER E. "Classification of the Estimations in Two Methods of Finding the Quotient in Long Division," *Elementary School Journal*, XXXII (April, 1932), 595-604.
A detailed classification and analysis of estimations of quotients in long division.
426. GROSSNICKLE, FOSTER E. "Still More Ado about Zero," *Elementary School Journal*, XXXIII (January, 1933), 358-64.
A critical discussion of two previous articles regarding zero, one by John W. Dickey ("Much Ado about Zero," *Elementary School Journal*, XXXII [November, 1931], 214-22), and the other by Harry G. Wheat (Item 439 in this list)
427. GROSSNICKLE, FOSTER E. "Cues in Division Problems Given in Nine Representative Textbooks in Arithmetic," *Elementary School Journal*, XXXIII (February, 1933), 452-61.
Presents lists of cues in division problems found in the analyses of nine textbooks for Grades III-VI
428. GUILER, WALTER SCRIBNER. "Computational Errors Made by Teachers of Arithmetic," *Elementary School Journal*, XXXIII (September, 1932), 51-58.
Analyzes the errors made by a group of twenty-two teachers on a survey test in computational arithmetic

429. HIZER, IRENE S., and HARAP, HENRY. "The Learning of Fundamentals in an Arithmetic Activity Course," *Educational Method*, XI (June, 1932), 536-39.

A concrete example of an attempt to teach fundamentals in arithmetic through a series of activities. Gives an interesting chart showing opportunities for teaching forty-seven fundamental steps in decimals in relation to twenty-seven listed activities. Gives no data as to results of such an organization of material. Suggestive to makers of textbooks.

430. KNIGHT, F. B. "Trends in Arithmetic," *Bulletin of the Department of Elementary School Principals*, XI (July, 1932), 640-45.

A critical appraisal of recent trends in arithmetic with a discussion of their probable future implications. Worth careful reading.

431. LAZERTE, M. E. *The Development of Problem-Solving Ability in Arithmetic*. Toronto: Clarke, Irwin & Co., Ltd., 1933. Pp. xviii+136.

A summary of six scientific studies made by the author concerning pupils' mental processes in problem-solving. The report is important both because of its contribution to new techniques and because of the data presented. The author adds a final chapter concerning applications to methods of teaching arithmetic. A major contribution.

432. MACLATCHY, JOSEPHINE H. "Another Measure of the Difficulty of Addition Combinations," *Educational Research Bulletin*, XII (March 8, 1933), 57-61.

Proposes a new measure of the relative difficulty of arithmetic combinations, namely, the degree of familiarity which children have with various number combinations at the time of entering school. Presents data on familiarity to children of twenty combinations drawn from 2,283 children.

433. MITCHELL, CLAUDE. "Problem Analysis and Problem-Solving in Arithmetic," *Elementary School Journal*, XXXII (February, 1932), 464-66.

Reconstructs a set of five difficult reasoning problems by adding a series of analytical questions to each. Compares scores on the reconstructed problems with previous scores on original set. Finds marked improvement as result of analytical exercises. Study based on results from 117 pupils in Grades VII and VIII.

434. OLANDER, HERBERT T. "The Need for Diagnostic Testing," *Elementary School Journal*, XXXIII (June, 1933), 736-45.

Presents data on the question: Should scores on test papers in arithmetic be affected by the method of work employed by the pupil?

435. OLANDER, HERBERT T., and SHARP, E. PRESTON. "Long Division versus Short Division," *Journal of Educational Research*, XXVI (September, 1932), 6-11.

Shows that 75 per cent of pupils from Grades IV-XII used long division in solving difficult examples in division with single-digit divisors and that pupils

used the long-division form with greater accuracy. Advocates teaching of long division first and as the regular method to be used by a majority of pupils

436. RENWICK, E. M. "Children's Misconceptions concerning the Symbols for Mathematical Equality," *British Journal of Educational Psychology*, II (June, 1932), 173-83.

Finds that many children, aged ten to twelve, are unable to understand correctly the mathematical symbol "equal." Data are presented showing how symbol is used. Study should be extended to show how this concept is developed by using children of successive ages.

437. RUCH, G. M. "Relative Difficulty of the One Hundred Multiplication Facts with Special Reference to Textbook Construction," *Elementary School Journal*, XXXII (January, 1932), 369-77.

A critical comparison of the investigations of Clapp, Norem and Knight, and Fowlkes. Ruch notes that learning difficulties are very different from final difficulties and makes several pertinent applications to the problem of textbook construction.

438. WASHBURN, CARLETON. "Arithmetic Grade-Placement Investigations of the Committee of Seven," *Educational Research Bulletin*, XI (November 23, 1932), 396-401.

A reply to the article by Louis E. Rath (The Grade-Placement of Addition and Subtraction of Fractions) published in the January 20, 1932, issue of the same journal.

439. WHEAT, HARRY G. "More Ado about Zero," *Elementary School Journal*, XXXII (April, 1932), 623-27.

A brief but important statement regarding the zero difficulty. Presents a sane and constructive point of view which is much needed.

SCIENCE

SAMUEL RALPH POWERS

Teachers College, Columbia University

This bibliography on instruction in science in the elementary school includes articles published during the interval from April, 1932, to June, 1933. The materials included relate particularly to instruction in Grades IV, V, and VI, although there is a definite tendency in these articles to recognize the elementary school as a unit. Problems associated with the education of teachers in science are discussed in some of these reports. These articles, which are mostly of the discussion type, show the character of the newer developments in the teaching of elementary science.

440. ARNSTEIGER, V. C. "The Relative Effectiveness of the Sound Motion Picture in Teaching Elementary Science and Music," *Education*, LIII (February, 1933), 332-35.

Presents an experiment which was carried out in the second half of the fifth grades of schools in five different cities to determine the value of sound motion pictures in the teaching of elementary science. Also describes an experiment which was carried out in Grade VII of the junior high school to determine the value of sound motion pictures in the teaching of music.

441. BOWERS, R. E. "The Elementary School Science Room," *New York State Education*, XX (April, 1933), 537.

Shows the trend of forward-looking and progressive school executives toward including in the plans for new buildings space for activities in the teaching of science.

442. BRODSHAUG, MELVIN, and STRAYER, JOHN F. "Sound Pictures in Elementary Science," *Science Education*, XVI (October, 1932), 360-67.

Presents the part played by sound motion pictures in elementary-school science and gives some points on sound-picture equipment which may be used in the classroom.

443. CALDWELL, OTIS WILLIAM, and LUNDEEN, GERHARD EMMANUEL. *An Experimental Study of Superstitions and Other Unfounded Beliefs as Related to Certain Units of General Science*. New York: Teachers College, Columbia University, 1932. Pp. 138.

Presents a research in curricular study carried out by thirty-seven general-science teachers who taught, to eighth- and ninth-grade pupils in public schools, units of instruction into which discussion of common unfounded ideas had been introduced. Results of the experimental use of the units are included and show the effects of specific instruction regarding attitudes toward certain unfounded beliefs and pupil achievement with reference to the objectives as a whole.

444. CALIFORNIA STATE DEPARTMENT OF EDUCATION. *Suggested Course of Study in Science for Elementary School*. California State Department of Education Bulletin, No. 13, Part I. Sacramento, California: State Department of Education, 1932. Pp. viii+90.

A course of study for Grades I-VI and for Grades VII and VIII. Contains bibliography. The newer developments in science for the elementary school are definitely incorporated.

445. CRAIG, GERALD S. "The Program of Elementary Science," *New York State Education*, XX (April, 1933), 524-26, 579-81.

Summarizes the modern trends in science-teaching in the elementary school as liberal and cultural rather than vocational in character.

446. EDWARDS, PAUL G. "Launching and Maintaining an Elementary Science Program in a Large City System," *Science Education*, XVI (December, 1932), 462-67.

Summarizes the methods by which the Chicago public-school system organized and initiated an elementary-science program and the methods by which teachers in service were trained to carry out this program.

447. HARROW, BENJAMIN. "Science in the Schools," *School and Home*, XV (November, 1932), 37-40.

Presents the view that science should be imparted to all children from the earlier ages as part of their general education

448. McSPADDEN, W. W., and RAINES, CHARLES C. "Coördinating Electricity and Magnetism in Elementary Science," *Science Education*, XVII (April, 1933), 118-24.

Presents the development of a unit on electricity and magnetism as taught in the elementary schools of Austin, Texas. This article contains excellent pictures of the apparatus used in the development of the unit.

449. MEISTER, MORRIS. "Recent Educational Research in Science Teaching," *School Science and Mathematics*, XXXII (November, 1932), 875-89.

An evaluation and interpretation of a number of the most important research contributions of the past few years. Presents a variety of problems of method and technique in science-teaching from Grade I through Grade XII

450. PALMER, E. LAURENCE. *Light*. Cornell Rural School Leaflet, Vol. XXVI, No. 3. Ithaca, New York: New York State College of Agriculture at Cornell University, 1933. Pp. 44.

Presents material on light in such a manner that it should be useful to elementary-school teachers.

451. PALMER, E. LAURENCE. *Poisons, Diseases, Medicines*. Cornell Rural School Leaflet, Vol. XXVI, No. 2. Ithaca, New York: New York State College of Agriculture at Cornell University, 1932. Pp. 46.

Tells of the poisonous plants and animals, of bacteria and other agencies that cause diseases, and of the common medicinal plants of New York.

452. PALMER, E. LAURENCE. *Teachers Number*. Cornell Rural School Leaflets, Vol. XXVI, No. 1. Ithaca, New York: New York State College of Agriculture at Cornell University, 1932. Pp. 96.

Contains content selected to aid teachers in the state of New York in the use of their new course of study. Contains also a listing of "Useful Books in Elementary Science and Nature Study Which Have Been Published in 1931-32"

453. PALMER, E. LAURENCE. "The Training of Elementary School Teachers in Science," *New York State Education*, XX (April, 1933), 541, 586-87.

Presents as one of the problems confronting teachers' colleges and normal schools that of preparing elementary-school teachers to carry the work of the new program in science.

454. PARKER, BERTHA M. "Magnets: An Intermediate-Grade Unit in Science," *School Science and Mathematics*, XXXIII (January, 1933), 86-91.
Describes the method by which the unit on magnets was developed in Grade IV in the University Elementary School of the University of Chicago.
455. PENNSYLVANIA DEPARTMENT OF PUBLIC INSTRUCTION. *Courses of Study in Science—Grades One, Two, and Three, and Courses of Study in Science—Grades Four, Five and Six*. Bulletin of the Pennsylvania Department of Public Instruction, Nos. 72 and 72A. Harrisburg, Pennsylvania: Pennsylvania Department of Public Instruction.
These two bulletins present a continuous program for the study of science through the grades of the elementary school. Materials are presented under the headings "Problems and Experiences" and "Suggested Activities."
456. PERSING, ELLIS C. "Science Library for Elementary Schools," *School Science and Mathematics*, XXXII (December, 1932), 979-97.
Contains lists of books for both teachers and pupils.
457. POWERS, SAMUEL RALPH. "Science in Education," *New York State Education*, XX (April, 1933), 520-23, 573-79.
Emphasizes the fact that one of the greatest challenges to science teachers is the necessity of giving instruction that will contribute to the pupils' understanding of modern thought and to their ability to interpret the phenomena of common observations. The article suggests as a pattern for the program of science in education a curriculum organization which gradually unfolds increasingly enlarged interpretations in sequential order paralleling the growth in maturity of the learner.
458. PRATT, CHARLES. "A Course in Elementary Science for Second-Year Connecticut Normal School Students," *School Science and Mathematics*, XXXIII (June, 1933), 624-34.
Summarizes the method by which a program is being developed for the training of elementary-science teachers in the normal schools of Connecticut.
459. STEVENS, BERTHA. "New Concepts and Trends in Science Education in the Elementary and Primary School Curriculum," *Children's Library Yearbook*, No. 4, pp. 16-26. Chicago: American Library Association, 1932.
Describes the modern trend toward teaching the so-called "separate" sciences as a whole and the tendency to integrate science with other subjects into a still more inclusive whole.
460. VINAL, WILLIAM G. "Nature Clubs for Teacher Training," *School Science and Mathematics*, XXXII (November, 1932), 825-37.
Describes the training in nature clubs used in Western Reserve University to prepare students to teach nature-study in the elementary school. Summarizes reports from some of the clubs.

461. WELLER, FLORENCE. "Attitudes and Skills in Elementary Science," *Science Education*, XVII (April, 1933), 90-97.
Describes an experiment carried out in Grade VI of the Baltimore public schools to determine to what extent children can develop attitudes and skills in problem-solving as an outcome of their instruction in science.
462. WRIGHTSTONE, J. WAYNE. "Fur Bearing Animals," *Grade Teacher*, L (January, 1933), 348-49, 391.
Presents a unit on fur-bearing animals as a unit in natural science and shows how this unit may be integrated with the various departments of a school curriculum.
463. WYLER, ROSE. "Studying Rocks in the First Grade," *Science Education*, XVII (April, 1933), 106-11.
Describes the method by which the unit entitled "The Earth Is Made of Rock" was developed in Grade I at Glens Falls, New York.

MUSIC

ANNE E. PIERCE
University of Iowa

464. COLEMAN, SATIS N. "The Progress of the Movement for Creative Music in the Schools," *School Music*, XXXII (September-October, 1932), 3-6.
An article which traces the development of the creative movement in music education and tells how children's interest in music has been stimulated through the construction of instruments and the creation of compositions
465. DONINGTON, MARGARET. *Music throughout the Secondary School: A Practical Scheme*. London: Oxford University Press, 1932. Pp. 88.
A brief account of the author's methods of teaching music in the lower, middle, and upper schools in England, which include children from the ages of four to seventeen years.
466. GIDDINGS, T. P. "To Syllable or Not To Syllable," *Music Supervisors Journal*, XIX (October, 1932), 35, 43.
The author states his reasons for advocating the use of the sol-fa syllables in teaching music-reading in the public schools and gives a suggested routine for their application.
467. JACOBSEN, O. IRVING. "Can the Latin Syllables Be Discarded?" *School Music*, XXXII (September-October, 1932), 7-8.
A report of an experiment in teaching second-grade children to read music without the use of the sol-fa syllables
468. JACOBSEN, O. IRVING. "The Influence of Hearing Defects," *Music Supervisors Journal*, XIX (March, 1933), 24-25.
Discusses frequent occurrence of defective hearing among children and its effect on musical performance

469. MOOS, JEAN CORRODI. "Some Recent Developments in Music Testing," *Musical Quarterly*, XIX (July, 1933), 318-30.
A description and an evaluation of the testing movement in music.
470. NORTON, ALMA M. *Teaching School Music*. Los Angeles, California: C. C. Crawford (University of Southern California), 1932. Pp. 248.
A practical treatise of different theories and practices of teaching music-reading and part-singing in the schools.
471. WOLCOTT, RUTH. "The Music Supervisor Meets His Teachers," *School Music*, XXXIII (March-April, 1933), 3-4, 16, 20.
Comments on the importance of the well-planned meeting for teachers and gives some suggestions on general procedures. A brief bibliography supplements the article.

ART AND ART EDUCATION*

W. G. WHITFORD

472. CONNECTICUT STATE BOARD OF EDUCATION. *A Program of Art Education for Connecticut*. Hartford, Connecticut: State Board of Education, 1932. Pp. 128.
Presents progressive ideals for a modern program of art education for the public schools of Connecticut. Discusses general objectives and criteria for art education, "what we mean by art education," subject-matter content, terminology, curriculum-building, and duties of teachers and supervisors.
473. *Creative Expression: The Development of Children in Art, Music, Literature and Dramatics*. Edited for the Progressive Education Association by Gertrude Hartman and Ann Shumaker. New York: John Day Co., 1932. Pp. 350.
An encyclopedic volume in which the editors have brought together under one cover special numbers of the magazine entitled *Progressive Education*. Presents valuable discussion of creative expression through art, music, dramatics, and literature.
474. GALE, ANN VAN NICE. *Children's Preferences for Colors, Color Combinations, and Color Arrangements*. Chicago: University of Chicago Press, 1933. Pp. xvi+60.
A monograph presenting an interesting and unique research technique for the study of children's reactions to color in combinations commonly used by artists in creative work.
475. KLAB, WALTER H., WINSLOW, LEON L., and KIRBY, C. VALENTINE. *Art Education in Principle and Practice*. Springfield, Massachusetts: Milton Bradley Co., 1933. Pp. viii+422.
A practical book for teachers and supervisors of art in elementary and second-

* See also Items 135 and 144 in the list of selected references appearing in the April, 1933, number of the *Elementary School Journal*.

ary schools. Discusses objectives, organization of art courses, integrating of school subjects, psychology of art, supervision of art, evaluating teaching, supply lists, extra-curriculum activities, demonstration lessons, selection of textbooks, schoolroom decoration, finances, publicity, exhibitions, and the annual report.

476. LEMOS, PEDRO J. *The Art Teacher: A Book for Children and Teachers*. Worcester, Massachusetts: Davis Press, 1931. Pp. 492.

A compilation of noteworthy exercises and projects in art contributed by leaders of art education from all parts of the United States. Material organized to fit the various abilities of children from grade to grade. All phases of the art curriculum are covered with profuse illustrations and accompanying text. An indispensable guide for art teachers in the elementary school.

477. PELIKAN, ALFRED G. *The Art of the Child*. Milwaukee, Wisconsin: Bruce Publishing Co., 1931. Pp. 124.

An honest and sincere study of the child's responses in the field of art expression. The author clearly presents two dominant phases of art as practiced by the child. (1) the free expression of ideas in pictorial form and (2) expression by means of the manipulation of paints, dyes, and other obtainable media. Both pure spontaneous expression and correlation of art as a motivating force for other subjects are considered. The aim of all work presented is to enrich other subjects, to develop good taste, to foster appreciation, and to aid in the discovery of special talent.

478. SMITH, J. B. "Trends of Thought in Art Education," *School Review*, XLI (April, 1933), 266-77.

A survey of the trends of thought in art education during the past forty years. Presents theories of leading art educators and their influence on the development of art as a subject in the public school. Objectives, content of the art curriculum, fundamentals of art, and special art activities are critically analyzed.

479. *The Story of Writing*. Achievements of Civilization, No. 1. Chicago: Committee on Materials of Instruction of the American Council on Education (5835 Kimbark Avenue), 1932. Pp. 64.

A highly interesting booklet furnishing basic informational reading to be used in connection with courses or units taught in elementary and high schools. Its purpose is to encourage the library method of teaching, to stimulate pupils to read extensively and independently, and to acquaint pupils with the factor of social co-operation in human affairs. This booklet and its type of approach to the acquiring of worthwhile knowledge will be extremely helpful to art teachers in the educational adjustment of their subject.

480. TODD, JESSIE, and GALE, ANN VAN NICE. *Enjoyment and Use of Art in the Elementary School*. Chicago: University of Chicago Press, 1933. Pp. x+134.

A practical and refreshing handbook for the teacher and a stimulating textbook for the student of methods. The book describes classroom technique and curriculum material readily adaptable to elementary-school programs. Emphasis

throughout this book is on accomplishment of the children and the originality developed. Part I discusses activities which are primarily enjoyment, "just for fun." Part II presents problems which are useful.

481. WAYMACK, EUNICE HAMMER, and HENDRICKSON, GORDON. "Children's Reactions as a Basis for Teaching Picture Appreciation," *Elementary School Journal*, XXXIII (December, 1932), 268-76.

A summary of research conducted by the University of Cincinnati which investigated the responses to pictures of children in Grades IV, V, and VI. The study concludes that neither the makers of graded picture lists nor teachers in close contact with children determine the suitability of pictures for certain grades on the basis of actual child preference, apart from training.

INDUSTRIAL ARTS¹

HOMER J. SMITH

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482. BAWDEN, WILLIAM T. (Editor) *Industrial Education Magazine*, XXXIII (April, 1932), 253-76. Seventh Annual Equipment Number.

Editorial comment on equipment as it affects teaching efficiency. Articles by leaders on equipment and layouts for school shops. Describes sample tool kits for home use with varying purposes and costs. Shop projects, field notes, and much illustrated advertising.

483. BRISTOW, W. H. (Chairman). *Junior-Senior High School Clearing House*, VII (November, 1932), 131-87. Industrial Education Number.

This special number is given largely to discussion of aims and trends in industrial education. Both industrial arts and vocational education are included. Among the contributors are the following well-known writers in the special field: Elmer W. Christy, P. L. Cressman, Maris M. Proffitt, and G. D. Whitney.

484. CARLSEN, RICHARD M. "Organization of an Intermediate School Drafting Room," *Industrial Arts and Vocational Education*, XXI (June, 1932), 180-82.

Suggests arrangement of room, organization of pupil groups, and details of daily or period procedure. Should be particularly helpful to new teachers and to those now confronted with classes larger than those to which they are accustomed. Based on two years' trial and developments in a Detroit intermediate school.

485. CRAMLET, ROSS C., and HUNTER, WILLIAM L. "Operating on a Reduced Budget," *Industrial Arts and Vocational Education*, XXII (September, 1933), 271-72.

A list of 102 specific suggestions for securing financial economy in the conduct of shop work. Every industrial teacher who examines these two pages will be

¹ See also Item 155 in the list of selected references appearing in the May, 1933, number of the *Elementary School Journal*.

rewarded by finding avenues of saving. If all directions here given cannot be carried out, others will come to mind by association.

486. ERICSON, EMANUEL E. "Pitfalls for Shop Teachers," *Industrial Education Magazine*, XXXIII (June, 1932), 312.

A single page of worth-while suggestions to teachers of industrial subjects. Brief treatments of seven success factors held in mind by superintendents and principals when judging men and departments.

487. ERICSON, EMANUEL E. "Why Teachers Fail," *Industrial Education Magazine*, XXXIV (May, 1933), 180.

A thought-provoking discussion of reasons for failure of many teachers.

488. GUNTHER, THERESA CHARLOTTE. *Manipulative Participation in the Study of Elementary Industrial Arts*. Teachers College Contributions to Education, No. 490. New York: Teachers College, Columbia University, 1932. Pp. 58.

Record of a detailed study with children from four grades in five selected schools. The procedure of experimentation is clearly described, and sample tests are shown. The report, though statistical, is plainly summarized. Children acquire more facts and show greater retention when manipulative participation is made a part of the teaching plan. The educational quotient seems not to be a determining factor.

489. MANZER, EMERSON WM. "Visual Instruction in Industrial-Arts Education," *Industrial Arts and Vocational Education*, XXI (August, 1932), 233-35.

Suggests that knowledge gained by pupils from their shop experiences must be supplemented by lectures and especially by the use of visual materials. Offers help in motivation and integration. Lists sources of industrial films.

490. MOSSMAN, LOIS COFFEY. "A Recent Tendency in Industrial Arts," *Bulletin of the Department of Elementary School Principals*, XI (July, 1932), 629-30.

Abstract of a paper offered as part of "A Symposium on Trends in Elementary Education." Stresses increasing use of first-hand experiences in regular classrooms as opposed to the concept of industrial arts as a special subject at this level. Suggests that present-day teaching "units" have to do with things of common usage based on industrial products. Points out approved methods and procedures and asks that construction be given less emphasis. The work should result in richness and vitality of experience, should be social in its aims, and may well be called "industrial study" because of its informational aspect.

491. ROLLER, JOHN B. "Industrial Arts Education in Elementary Schools," *Virginia Journal of Education*, XXVI (October, 1932), 45-46.

Lists the requirements that justify the inclusion of industrial arts in the elementary-school curriculum and urges each teacher to "select from the wealth of material offered that part which he can use well and can relate to the life of the group of children being taught, their mothers and fathers, their uncles and aunts and cousins."

492. SELVIDGE, ROBERT W. "Success Factors in Teaching," *Industrial Education Magazine*, XXXIII (June, 1932), 305-6.

A statement concerning matters other than the physical. Thirteen "General Personal Factors" and twenty-two "Professional Factors" are listed. Directness, brevity, and clarity characterize these lists of hints for the industrial teacher who seeks high rating among his kind or among classroom instructors in general.

HOME ECONOMICS

BEULAH I. COON

Federal Board for Vocational Education

493. CUNNINGHAM, BESS V., and CONNOR, RUTH. "Suggested Experiments in the Field of Pre-Parental Education," *Teachers College Record*, XXXIV (January, 1933), 285-301.

Topics which pupils in Grades VII-XII wished to discuss were collected and classified, showing grade and sex differences for more than two thousand papers. Content in home and family topics for different grades is suggested as a basis for further experimentation.

494. CUNNINGHAM, ELIZABETH MECHEM. "The Measurement of Attitudes toward Nursery Schools," *Abstracts of Dissertations and Theses in Education*, 1931-1932, pp. 41-42. Bureau of Educational Reference and Research Monograph No. 2. Ann Arbor, Michigan: University of Michigan, 1933.

Forms A and B of a psycho-physical scale for measuring social attitudes, particularly those relating to nursery schools, were developed. The scale was tested for reliability and validity with seven groups composed of classes in education, psychology, and sociology at the University of Michigan. The scale was found to be most reliable with groups in which the range of attitudes was wide.

495. EDSON, NEWELL W. "Teaching Family Relations," *Journal of Home Economics*, XXV (March, 1933), 188-94.

The three important relations of significance to the growing child are listed, and five important considerations in teaching these relations are discussed.

496. GILCHRIST, MARY ANN. "A Survey of Occupational Information Material in the Field of Home Economics," *Abstracts of Dissertations and Theses in Education*, 1931-1932, pp. 47-48. Bureau of Educational Reference and Research Monograph No. 2. Ann Arbor, Michigan: University of Michigan, 1933.

An annotated bibliography of books and magazine articles published since 1920 which give information for teachers and counselors of girls regarding the vocations for girls and women trained in home economics

497. HANNA, PAUL R. "Adjusting the Home Economics Program to the Present Economic Situation," *Teachers College Record*, XXXIV (February, 1933), 386-97.
Some important directions for home-economics training in the present reconstruction of society are set forth as vital. Education for home and family life as it is being reconstructed at present is necessary for boys as well as for girls and presents five important challenges to home economists.
498. MCCARTHY, DOROTHEA. "The Nursery School and the Social Development of the Child," *Journal of Home Economics*, XXV (January, 1933), 13-18.
Some recent studies are reviewed showing the place of the nursery school in assisting with the social growth of the preschool child, especially where opportunities are provided for co-operation with parents.
499. MCGINNIS, ESTHER, and KEEVER, AURA I. "Child Development and Home Economics in Minnesota," *Practical Home Economics*, XI (June, 1933), 171-73, 186-87.
A sampling of schools in Minnesota was surveyed to determine what work in child development was offered, where it was offered, how it was given, and what books were used. The article includes an annotated bibliography.
500. MARTIN, ETHEL AUSTIN. "The School Lunch as a Health Agency," *Practical Home Economics*, XI (April, 1933), 113-15.
Describes the possibilities of improving the food and other health habits of pupils through making a survey of conditions and following the survey with an educational program.
501. MARTIN, ETHEL AUSTIN, and DAVISON, M. LUCILLE. "Health Education in the Public Schools of Akron, Ohio," *Journal of Home Economics*, XXIV (November, 1932), 967-73.
A description of the experimental plan used for teaching health in those elementary schools where no lunchroom exists.
502. MINNESOTA STATE DEPARTMENT OF EDUCATION. *Home Economics for Junior and Senior High School Periods*. State Department of Education Bulletin No. C-7. St. Paul, Minnesota: State Department of Education, 1933. Pp. 204.
Sets up a four-year course of study beginning in Grade VII. Three surveys were made of home duties and activities of girls, equipment in the home, and courses in the public schools as a basis for content in the syllabi.
503. PINKNEY, JEANIE M., and OTHERS. *A Health Instruction Guide for Elementary School Teachers*. Austin, Texas: Bureau of Nutrition and Health Education, Division of Extension, University of Texas, 1932. Pp. 368.
Contains the results of selected studies of authorities in child care and health. These studies are summarized, and objectives dealing with food and other health habits, control of communicable diseases, safety and first aid, and mental and social hygiene are set up for each grade.

504. RINGLE, MARIE P. "Graded Difficulties in Teaching Foods," *Practical Home Economics*, XI (June, 1933), 166, 190.
Gives a brief description of the bases for three successive courses in foods, each course being more difficult than the preceding course.
505. *A Statistical Survey of Home Economics in the Public Schools of the United States, 1931-1932*. New York: Policyholders Service Bureau, Metropolitan Life Insurance Co.
Questionnaire returns from 80,644 elementary and high schools show the enrollment in courses in home economics. These are separated by cities, counties, and states.
506. SUTCLIFFE, DORIS K. "Hot School Lunches in Rural Rhode Island," *Practical Home Economics*, XI (July, 1933), 207-8.
Describes the plans by which a few rural schools have made possible hot lunches for the pupils.
507. WINCHELL, CORA M. "Home Activities for General Education in an Integrated School Program," *Practical Home Economics*, X (December, 1932), 381, 398.
Describes the possibilities of making home living and homemaking a vital part of an integrated program developing ideals and concepts important in daily life.
508. WINCHELL, JESSIE A. "How Home Economics in the Public Schools Is Adjusting to Emergency Conditions," *Journal of Home Economics*, XXV (February, 1933), 104-8.
The reports from twenty cities are summarized showing the problems and the methods of solution in making adjustments to the present financial stringency in schools and homes.
509. ZUILL, FRANCES. "The Factors Involved in the Appraisal of Home Economics," *Journal of Home Economics*, XXV (February, 1933), 96-103.
Eight points on which home economics may be appraised by the public are briefly described.

LIBRARY TRAINING

EVANGELINE COLBURN

The following references on library training in the elementary school were selected from material published between April 1, 1932, and May 1, 1933. Because of their general nature, these cannot well be grouped under specific headings. The literature indicates that the idea of the elementary-school library is generally accepted. Its need is realized, but the library is still in the experimental stage. The dominant ideas presented in recent articles on the school library are: (1) The elementary-school library should be the center of the school's activities rather than a repository for books. (2) Training

is designed, not only for present educational needs, but to fit pupils for use of libraries in adult life. (3) The library must be fitted to the school's own needs.

510. BAILEY, LAURA C. "Fitting the Library to the School," *Educational Method*, XII (October, 1932), 1-8.

A paper read at a meeting of the American Library Association in New Haven, June, 1931. Discusses the elementary-school library as an integral part of the child-centered school and describes methods of introducing lessons on library technique. Uses made of the library, library tools, etc., are also discussed.

511. EATON, ANNE T. "Classroom Activities and the School Library," *School Library Experience*, 2d Series, pp. 211-19. New York: H. W. Wilson Co., 1932.

A thorough discussion of the utilitarian ways in which the school library aids classroom activities in all grades, not excepting the first. Presents specific examples of training children to use materials. Enumerates general tools and helps which the library provides.

512. HARGER, LENA L. "Using the Library," *Minnesota Journal of Education*, XIII (March, 1933), 245-46.

An example of co-operation of the public library with the school. Describes an experiment in the Sidney Pratt School of Minneapolis, where the public library established a station. Activities and results listed.

513. HENDERSON, FRANK D. "A School-Community Library Project," *The Principal and His Community*, pp. 329-31. Eleventh Yearbook of the Department of Elementary School Principals of the National Education Association. Washington: Department of Elementary School Principals of the National Education Association, 1932.

A specific example of fitting a library to the needs of a school in an industrial district where many foreigners were employed.

514. KENT, CHARLES A. "Organizing a Library in an Elementary School," *School Library Experience*, 2d Series, pp. 228-39. New York: H. W. Wilson Co., 1932.

Presents the school-library problem and objectives. Discusses the purposes, equipment, and location of the library, and its place in the education of boys and girls.

515. KOOS, MRS. FRANK H. "Planning a School Library Program," *Wilson Bulletin*, VI (June, 1932), 679-83.

A thorough and comprehensive discussion of the elementary-school library, which stresses the importance of studying the particular needs of a school before planning its library.

516. LATHROP, EDITH A. "Elementary School Library Service as It Is and Should Be," *American Library Association Bulletin*, XXVI (July, 1932), 436-41.

A thorough discussion of library service in all classes of elementary schools. Presents problems for research in the field and shows the relation of the school library to modern trends in education.

517. PRITCHARD, MARTHA CAROLINE. "The Elementary School Library Hour," *School Library Experience*, 2d Series, pp. 270-85. New York: H. W. Wilson Co., 1932.

A summary of the replies by teachers to a questionnaire concerning methods of handling groups in library periods. Routine procedures in different schools are described.

518. WOFFORD, AZILE M. "Bridging the Gap," *Library Journal*, LVII (October 1, 1932), 813.

Defines the purposes of the school library and briefly discusses ways of accomplishing these purposes.

PHYSICAL EDUCATION

L. B. SHARP

519. BLANCHARD, V. S. "Guiding Principles in Teacher Training from a Public School Point of View," *Research Quarterly of the American Physical Education Association*, III (May, 1932), 80-92.

A determination of the guiding principles in teacher training by the use of a questionnaire sent to teachers to discover whether they were sufficiently prepared to teach the subjects which they were required to teach

520. HANSSON, K. G. "Position in Physical Therapy," *Physiotherapy Review*, XII (May-June, 1932), 133-36.

The conclusion is reached that it is easier to prevent physical deformities than to correct them. Prevention demands that various parts of the body have a favored position in which they must be placed

521. HOAR, FRANKLIN B. "A Compilation of Visual Aids for Health and Physical Education," *Journal of Health and Physical Education*, III (April, 1932), 40-42, 54

Lists visual aids for twelve phases of health education and nine phases of physical education

522. MILLER, GEORGE F. "Pupil Posture and School Seating," *School and Society*, XXXVI (September 17, 1932), 371-73.

Questions the soundness of many of the present views on posture and school seating. The author says, "How can intelligent salesmen of school furniture keep from laughing up their sleeves at the bunk about seating and posture they impose on the schools?"

- 523 REDDEN, W. R. "Control of Ringworm Infection of the Feet," *Research Quarterly of the American Physical Education Association*, III (May, 1932), 73-80.
A discussion on the control of ringworm and recommendations for personal hygiene
524. ROGERS, JAMES EDWARD. *The Child and Play*. New York: Century Co., 1932. Pp. 206.
Based on reports of the White House Conference on Child Health and Protection with references to needs, facilities, and values of play
525. SCHWENDENER, NORMA. *Game Preferences of 10,000 Fourth Grade Children*. New York: Norma Schwendener (Teachers College, Columbia University), 1932. Pp. 60.
A study of game preferences of ten thousand fourth-grade children which shows that no sex differences nor differences caused by climate and season appear in the choices of games.
526. WILLIAMS, JESSE FEIRING. "Cultural Aspects of Physical Education," *Journal of Health and Physical Education*, III (November, 1932), 20-23.
Describes how physical education as a complete program contributes to the culture of our people through self-expression in play, skills used in leisure, and recreation as a worthy phase of fine living.
527. WILLIAMS, JESSE FEIRING, DAMBACH, JOHN I., and SCHWENDENER, NORMA. *Methods in Physical Education*. Philadelphia: W. B. Saunders Co., 1932. Pp. 222.
Ranges from discussion of the use of music in primary grades to descriptions of methods in teaching swimming, gymnastics, dancing, and athletics. Discipline, drill, rewards and punishments, leadership, and efficiency in classwork are considered.

Educational Writings

REVIEWS AND BOOK NOTES

A history of school support during periods of economic depression.—A new book¹ presents, in fifty-nine tables, the facts about school incomes from various sources and about school expenditures, especially expenditures for salaries, together with figures on attendance at schools during the major business recessions in the United States for the last hundred years. The depressions of 1837, 1857, the 1870's, the 1890's, 1907, and 1921 are thus studied. From this array of data the general conclusion is that, since previous depressions have not materially or for long periods interfered with the progress and expansion of the American school system, we may and ought to expect a similar outcome of the present stagnation of business. Perhaps so, but this sort of historical argument presupposes that the present conditions are essentially like those of the past.

Let us see whether this supposition is a fact. We do not now have vast public lands for free settlement. There are no railroads to build, no untapped natural resources to exploit, no great foreign markets to open up and to supply. We are no longer living in an expanding country with its voracious economic hungers. Any comparison between depressions should be based on a careful analysis of these and other differentia. The book under review fails to make any such analyses, and its assumption that the economic ills of 1933 are of the same nature as those of other days seems to be contrary to fact.

The educational situation, then and now, should also receive attention. When teachers' salaries were close to the level of bare subsistence and when the schools taught the rudiments only, it was impossible to make large reductions in costs without closing the schools altogether. That situation existed one hundred, even forty, years ago. Again, in several earlier depressions it was possible to replace men with women as teachers at a considerable saving in salary. Without a doubt, the feminization of the teaching profession has an economic basis and bears directly on the interpretation of these figures.

Furthermore, the tables presented in this book seem to show a fairly decided drop in salaries even in previous depressions. There is not space to consider the whole series; two examples must suffice. Consider the salaries of men and of

¹ Royce Stanley Pitkin, *Public School Support in the United States during Periods of Economic Depression*. Brattleboro, Vermont: Stephen Daye Press, 1933. Pp. 144. \$1.50.

women given by states for the depression years of the 1890's in Tables 47 and 48. Table 47 shows that, on an average, the salaries of men were in 1897 and 1898 at their lowest point—about 14 per cent or 15 per cent below the highest preceding point of the decade. The "lows" are found chiefly in the two years named, and in no state do the salaries fall to reflect the decline in prosperity. It is true that by 1899 and 1900 a slight upturn in monthly salaries took place; by comparing the salaries of 1900, when the depression was over, with those of 1892, when it had not yet begun, the author is able to show an increase of salaries for the decade of 2.4 per cent. Table 48 shows that the salaries of women declined hardly at all, but it does not show how many women replaced men in the staffs of the schools.

Finally, educational statistics during the nineteenth century were gathered upon varying and often very different bases in the different states, and any study of these statistics should recognize this fundamental fact.

The American people, having never been carefully informed about the work and the purpose of their expanding schools in a changing society, think they see that very considerable savings can be made without ruining the schools. Certain classes of our people would even contemplate with complacency the complete ruin of the public schools. At all events, the schools are not being treated and are not going to be treated in this depression as they were in previous crises.

H. G. GOOD

OHIO STATE UNIVERSITY

Analysis of courses in educational measurements.—In recent years there has been a tendency to analyze the content of courses offered at the professional educational level. In the study under review¹ an attempt is made to analyze the offering in the field of educational measurements. The study is limited to the offerings for teachers of the elementary school.

The author presents evidence that the measurement movement has had a large development by analyzing normal-school catalogues, by citing the publication of seventy-five books on this topic from 1911 to 1930, and by giving the percentages of articles on measurement appearing in 1929-30 in four magazines.

The author's first attempt to determine the content of courses in educational measurements was made by analyzing ten widely-used textbooks in this field. The ten books were selected on the basis of the author's judgment as being the ten volumes most frequently used as textbooks. It is hard to conceive of any justifiable reason for using the judgment of a single person to determine widespread use of textbooks. Certainly much better methods are available. It so happened that the ten textbooks selected were the most widely used in the normal schools included in the thesis. It would have been rather distressing if this

¹ Maxwell G. Park, *Training in Objective Educational Measurements for Elementary School Teachers*, Teachers College Contributions to Education, No. 520. New York: Teachers College, Columbia University, 1932. Pp. vi+100. \$1.50.

coincidence had not occurred. The most significant finding in this part of the study is the lack of uniformity of the topics included in the ten books. Only about 20 per cent of the topics were contained in as many as five of the ten books. A rather detailed list of topics was formulated

The analysis of textbooks was used as a check list which was sent to 125 teachers of educational measurements in state normal schools. The teachers were asked to rank each of the topics on the following numerical scale. 1, if considered of major importance; 2, if considered of average importance, 3, if considered of minor importance, 4, if the item should be omitted. Seventy-three of the schools sent in returns. Of the 169 subtopics listed, 8 per cent were recommended for omission. The data also reveal a high degree of similarity in the topics included in the introductory course in educational measurements offered in seventy-three state normal schools.

A second part of the inquiry was addressed to teachers of educational measurements and had reference to such questions as prerequisites for the course, major functions, textbooks and references used, test material used, and difficulties and problems encountered. Sixty schools made returns. The most significant finding in this part of the study is the section dealing with the general functions of the introductory course in educational measurements. Thirty-seven different functions are mentioned. The ability to improve teaching and learning through diagnostic measurement was mentioned most frequently (thirty-three times); acquaintance with achievement tests was mentioned twenty-nine times. The frequency of mention of other functions ranged from eighteen to one. Six functions were mentioned only once, while nine others were suggested by only two persons. In some quarters there has been a tendency to criticize subject-matter teachers for lack of agreement as to outcomes of teaching; the data in this study suggest that perhaps some persons living in glass houses have been casting stones.

A third questionnaire was sent to 133 teachers of reading, arithmetic, and music in normal schools. Forty-four teachers of arithmetic replied, thirty-five teachers of music, and thirty-nine teachers of reading. Questions somewhat similar to those asked the teachers of the course in measurements were asked the teachers of the methods courses. Not much confidence is to be placed in the results of this section, as the number of returns for each of the separate subjects is small. However, the results are exactly what would be expected. These teachers of methods think that they ought to teach their students about measurements, and certain questions revealed that these teachers do not know any too much about the field of measurements. Forty-one per cent of the group admitted that they had not examined a syllabus of the educational-measurement course. The outcomes on which the teachers of measurement placed most emphasis were ranked low by the teachers of methods. This situation reveals one of the weaknesses in teacher training, namely, lack of co-operation in determination of the purposes and the procedures on the part of the persons responsible for the training of teachers.

The last chapter includes a condensed summary of thirty-three statements, nineteen guiding hypotheses and principles, and a proposed teacher-training program in educational measurements. The guiding principles impress one as a summary of the author's opinions rather than an epitome of the findings of the study. Each topic in the outline is given a weighting based on the judgments of teachers. However, the author states that a few items ranking a little above or below rank 2.5 were included or left out as the writer deemed best. Such a procedure reduces somewhat the value of the outline.

The information contained in such a study is worth having and will probably prove of some value to teachers of educational measurements. Certain techniques and procedures employed by the author lessen the scientific validity of the findings. If the generalizations made on the basis of the findings are not too broad, they will prove of limited value.

L. W. WEBB

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Relation of reading to achievement in other subjects.—An important scientific study¹ of the relation of reading ability to achievement in other subjects in Grades IV, V, and VI has appeared. This investigation makes a contribution to the problem of discovering the factors accounting for the differences in children's achievement in comparison to mentality. The results indicate the importance of a certain minimum attainment in various reading functions.

The Stanford Revision of the Binet-Simon Intelligence Scale was used to measure mentality. The Modern School Achievement Tests in arithmetic, spelling, health knowledge, language usage, history and civics, geography, and science were used to obtain an achievement score. The reading tests used were the Modern School Achievement Tests, Level of Comprehension and Speed and Accuracy of Reading; Ingraham-Clark Diagnostic Reading, Parts I and II; Thorndike Test of Word Knowledge, the Gates Silent Reading Tests, Types A, B, C, and D; and Gray's Standardized Oral Reading Paragraphs. Complete results on all tests were obtained for 73 pupils in Grade IV, 63 pupils in Grade V, and 68 pupils in Grade VI, a total of 204 cases.

For each pupil the difference between the mental age and the achievement age (not including reading) was obtained. The difference is positive when the achievement is greater than the mental age and negative when it is less. This difference is called the achieving difference. The higher the intelligence quotient, the lower the achieving difference tended to be. Consequently, the effect of intelligence was eliminated mechanically. By use of sigma scores an achieving index was obtained for each child, which was used as his individual score throughout the study.

¹ Dorris May Lee, *The Importance of Reading for Achieving in Grades Four, Five, and Six*. Teachers College Contributions to Education, No. 556. New York Teachers College, Columbia University, 1933. Pp. viii+64. \$1.50.

Correlations between scores on each reading test and achieving indices in each of Grades IV, V, and VI are presented. The correlations for Grade IV range from .382 to .663, with a median of about .59; for Grade V from $-.046$ to .515, with a median of about .42; and for Grade VI from $-.006$ to .239, with a median of about .15. The important observation is that the correlations decrease sharply in regular order from Grade IV to Grade VI. A similar result is shown in correlations of achieving difference and certain of the reading tests. Correlations between reading scores and mental age show an average of .20 in Grade IV and .50 in Grade VI. The correlations between reading scores and intelligence quotients show no definite trends and in most cases are considerably below .50. Correlations between reading scores and achievement scores show an average of .80 in Grade IV, .60 in Grade V, and .67 in Grade VI. The author says, "These correlations cannot in any way answer the question proposed in the present study" (p. 25).

"The problem now resolves itself into finding a satisfactory explanation of the decided drop in the correlations of reading and the achieving index through the grades" (p. 26). Various hypotheses were studied. Finally, the author presents a mass of data to show what she considers one of the important points of the study, namely, that a beginning fourth-grade attainment in each of various reading functions is practically an essential to satisfactory achievement in Grades IV-VI. She points out that teachers should not despair over low reading ability, even in a sixth-grade class, as long as the reading ability is above this critical level.

The following are some other conclusions: Pupils having one or more reading scores below the fourth-grade standard are likely to be low in achievement. Pupils low in achievement because of low reading ability can be detected fairly well by selected batteries of reading tests so assembled as to give a balanced and effective testing program. There is no reading ability so high that it insures a high achieving index, as is shown by the fact that some of the highest reading scores were made by children low in achievement.

Experienced administrators will be likely to question some of the author's statements of educational implications, such as the following: "As a result of this diagnostic testing [speed, accuracy, level of comprehension, following directions, vocabulary, and oral reading] the school should be fairly certain that every child beginning in the fourth grade has a reading ability equal to the grade norm of 4.0" (p. 60). While much can be done to prevent serious retardation in reading in the first three grades, such a rigid requirement can hardly be met without an undesirable amount of non-promotion.

A possible weakness of the study lies in the lack of adequate reliability of some of the measuring instruments, and the author recognizes the importance of this feature. In the table of information concerning the tests (p. 4) the author reports that reliability data are not available for the oral-reading test and for the measures of speed and accuracy of reading. Of the fifty-four reliability coefficients given, one is below .70, eleven are below .80, and twenty-eight are below

.90. The test for measuring speed and accuracy of reading is a paragraph test and permits re-reading. In the reviewer's opinion, a measure of rate and comprehension in straightforward story-reading should have been included.

The author made no study of the relation of reading ability to achievement on specific tests. For example, it would be of value to know the relative importance of reading ability in arithmetic reasoning and computation.

The investigator has produced an interesting and significant study. Further studies along this line are needed to check the validity of the findings

CLARENCE R. STONE

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An eye-movement study of spelling.—The photography of the behavior of eye-movements has become one of the most meticulous methods of investigation in the field of educational psychology. This technique has already been thoroughly applied to the study of reading and arithmetic. It has recently been employed to analyze the movements of the eyes in learning to spell words. Like many similar studies, this investigation¹ is a product of the laboratories of the School of Education at the University of Chicago.

The layman insisting on practical outcomes for educational research may dismiss the eye-movement technique as absurdly irrelevant for the study of spelling. In defense it should be pointed out that the movements of the eyes are not important per se but that they are significant because they are indicative of the mental processes of the subject. If the movements are accurately measured, they constitute a precise record of important phases of perception manifested in such processes as reading, arithmetic, and spelling.

Sixty-seven subjects were used in the investigation. Three were university students, thirty-two were high-school pupils, and thirty-two were pupils in Grades III–VI of an elementary school. At each academic level an equal number of good and poor spellers were selected on the basis of a fifty-word test. Three sets of five words each were selected for the investigation itself: one set for the high-school and college students; one set for the fourth-, fifth-, and sixth-grade pupils; and one set for the third-grade pupils. Space does not permit a description of the operation of the apparatus and the actual conduct of the experimentation. However, it should be pointed out that the apparatus of this investigation provides perhaps the most scrupulous measurement ever employed in the study of educational problems. This precision affords an excellent opportunity for minute analysis, and such an analysis the author of the monograph has presented with amazing detail in forty-six figures and thirty-four tables.

A summary of the findings of the investigation indicates that, for the good

¹ Luther C. Gilbert, *An Experimental Investigation of Eye Movements in Learning To Spell Words*. Psychological Monographs, Vol. XLIII, No. 3. Princeton, New Jersey: Psychological Review Co., 1932. Pp. viii+82

speller as contrasted with the poor speller, the average number and duration of fixations are less, the fixation pause lengths are more regular, the study unit of the word is broader, and there are fewer regressive movements. The investigation further shows that, typically, the good speller learns to differentiate between easy and hard portions of a word, easy portions being dismissed with little more than a mere identification reaction while hard sections are analyzed for the purpose of clearing up difficulties. The poor spellers fail to develop effective methods of analysis. "Easy spots are apt to receive minute attention; hard spots may be ignored. The study is apt to be irregular, detailed, distributed without reference to the individual's needs" (p. 79).

The author of the monograph interprets the results of the investigation as demonstrating the need for a method of instruction which should develop a systematic attack upon words. The emphasis in study should be placed on the identification and the analysis of those sections of the word which are difficult, the amount of analysis depending on the extent of difficulty which the situation presents. The author is also so impressed with the presence of individual differences that he regards it as undesirable for the teacher to be too general in her direction of the analysis of a word. "Each pupil should be trained to detect and correct his own errors" (p. 80).

The foregoing statements constitute sufficient evidence for the statement that an elaborate and precise method such as that employed in this investigation justifies itself, not only from the point of view of refined experimental procedure, but also from the point of view of practical outcomes. While this monograph will be of primary interest to the student of experimental education, nevertheless the conclusions reached, if given the attention which they deserve, should be instrumental in bringing about important modifications in the teaching of spelling.

HOWARD Y. McCLUSKY

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A non-reading curriculum for the first grade.—The first grade is usually thought of as the grade in which children learn to read or an effort is made to teach them to read. Great strides in the teaching of this subject have been made in the past few years. Numerous investigations and a vast amount of literature on the subject have called attention to the fact that entrance into the first grade is not infallible evidence of readiness to read. The shockingly long list of failures has demonstrated that something more is needed than promotion from the kindergarten, ready-made reading systems, and conscientious teachers. Educators have begun to see that a preparation in the form of rich and varied experiences and a development of strong motives for and deep interests in reading are prerequisite to the development of habits and skills and are as fundamental as this development.

Recently a first-grade teacher in the Lincoln School of Teachers College, Columbia University, planned and carried on a non-reading curriculum in her

first grade and has published a report of her work.¹ This teacher believes that the act of reading takes place most successfully when there is in the mind of the child a rich store of well-defined concepts of the things read about. When the child has accumulated experience after experience through the activities demanded by his muscles and senses in investigating the world about him, he brings just so many more vivid and meaningful associations to the complex, abstract, symbolic study of reading. He has added power to grasp the subject matter more easily and to retain it because of the many eye and ear and muscle associations connected with it. These associations serve him in good stead in schools in which reading is no longer taught as a matter of learning sounds or letters but, from the beginning, as a thought-getting process.

"Readiness for reading also develops," says the author "through much use of and interest in language, through discussions and conversation, through listening to stories and verse and lingering over vivid, unique, or beautiful phrasing" and "through originating one's own stories and verse and plays" (p. 204).

A First Grade at Work is the record, based largely on classroom notes, of the way in which the program developed from day to day and of the manner in which this teacher tried to insure happy, full living together in these developing children, attempted to provide for reading readiness, and tried to build other necessary and desirable habits and attitudes.

In this experiment Miss Wright attempted to answer the following questions as she worked with twenty-four children through the first, second, and third grades.

Do the vast majority of children at six, because of their physical, emotional, social, and intellectual immaturity and because of their comparative ignorance of the environment in which they must live and work and spend their leisure, still need all or most of their time for exploring, investigating, experimenting, and *living* in company with their fellows and with suitable guides? Will they gain the most power and control over their environment and over themselves if their time continues to be spent largely in such activities and in organizing the knowledge and information they are gaining thereby, through using the many concrete materials at hand rather than through the abstract use of symbols? Is it important for the present and for the potential development of the personalities-to-be that, before they become largely involved and dependent upon the findings and imaginings of other people, they accumulate a vast stock of first-hand experiences and learn to value knowledge based on such related experiences? Would the quest for knowledge be hindered at this stage by the lack of tools of reading and writing? . . .

If we perhaps agreed tentatively that reading and writing are not necessarily the essential "daily bread" of six-year-olds, we still have to consider that at some period of the children's development there must be a mastery of these skills if they are to make use of what the world has to offer them. If they did not start early to acquire a mastery of these tools, would there be a slowing-up of the educative process? Or by delaying

¹ Lula E. Wright, *A First Grade at Work: A Non-Reading Curriculum (Units of Work)*. Lincoln School Curriculum Studies. New York: Lincoln School of Teachers College, Columbia University, 1932. Pp. xi+248.

reading until there was greater maturity and a larger fund of experience to build on, would reading and writing be learned with greater economy of time and effort, and valuable experiences in the creative arts and the social sciences be allowed to take the place of the usual repetition and drill on symbols? [Pp. 2-3.]

As it proved administratively impossible to carry on the controlled experiment which had been planned, Miss Wright was unable to set forth any definite results. However, she makes some evaluations of the program:

A background of experiences involving some of the geography, civics, science, and history of their environment was being built up. . . .

Much opportunity for creative reorganization of thought and for dramatic expression was given through music and rhythm, language, and dramatic play, through the fine arts, through building and through play with blocks [p. 196].

The children learned some of the social art of adjusting themselves to their playmates and co-workers [p. 198].

All but three or four of the children responded to the introduction and study of reading [in the second year] with pleasure, and a few of them with eagerness. But interests in industrial arts and science, in language and dramatic play had been developed to such a degree in the preceding years that the activities which contributed to or satisfied these interests [in the second and third years] took up so much time it was difficult to provide for even the daily half-hour reading period. The children progressed at their own individual rates in reading, some of them advancing rapidly, others slowly [p. 207].

The book leaves the reviewer with many questions with respect to the progress of these children. In fact, the questions which Miss Wright hoped to be able to answer as a result of her study remain unanswered. There can be no doubt of the value of the rich program provided for the children and while first-grade teachers everywhere will be happy to read this interesting account of the thrilling experiences of a group of children who were not prematurely forced into reading, they will feel that the children were deprived of a great deal of real enjoyment when these experiences were not tied up with reading. It seems that a stage which had been so well set for reading should have been used while the scenery was fresh. Instead, the children waited an entire year to use their experiences as the content of their reading. Children forget a great deal in a year. The vividness of many of the activities and the enthusiasm of the children must have been lost in many cases by the delay in using the experiences. Miss Wright says, "We must remind ourselves that reading is only one out of the many avenues of approach to learning" (p. 3). This is true, but, since reading is *one* of the avenues to learning, it should not be entirely neglected. A balanced program, which this teacher desired for her children, should make use of every possible approach to learning instead of studiously avoiding two of those which children enjoy using, namely, reading and writing.

ADA R. POLKINGHORNE

A reference book in science for the upper grades.—Readable and interesting reference books in science for boys and girls in elementary schools are much needed.

One of the final volumes published by the Century Company¹ is intended to meet that need and is particularly suitable for children of the upper elementary or junior high school grades. Older pupils may also get much information and pleasure from the non-technical, conversational, and narrative descriptions included.

Part I, "The Story of the Earth," contains thirteen chapters describing, in the light of present scientific knowledge, how the earth was probably formed; the subsequent processes of nature which have brought it to its present state with mountains, valleys, plains, oceans, rivers, and so on; and the beginning and evolution of forms of life, including man.

Part II, "Neighbors in the Sky," contains nineteen chapters describing an imaginary trip to the sun, with stops at Mercury and Venus, and a narrow escape from collision with the moon, a second trip to the moon including an exciting ball game played there, explanations of eclipses of the sun and moon, a trip to Mars; and discussions of what we know about Jupiter, Saturn, the other planets (including Pluto), comets, and the asteroids.

Part III, "The Stars," contains twelve chapters telling about the great constellations and other solar systems, with interpolations of stories of how the constellations were given their names, and a concluding discussion of "Star Clocks and Mileposts."

Part IV, "How We Found Out These Things," contains fourteen chapters sketching the growth of scientific knowledge from Aristarchus and Aristotle, through Ptolemy, Copernicus, Galileo, and Newton to the present, supplemented by accounts of trips to the Grand Canyon of the Colorado and the Gobi Desert. The last mentioned are true accounts of the several trips of the Roy Chapman Andrews' parties in search of dinosaurs' bones and eggs. The next to the last chapter, "How Living Things Change," shows how Darwin came to develop his theory of evolution; and the last chapter, "What We Are Trying To Find Out," outlines some of the present problems of scientists.

This prosaic discussion does not give any adequate idea of the interesting style in which the book is written. The style is an outstanding characteristic and will not fail to make an appeal to large numbers of boys and girls. The imaginative character of a few of the chapters, especially the story of the trip to the sun, may possibly be a little jarring to the matter-of-fact individual because of the possible confusion of fact and fancy, but the descriptions are nevertheless interesting and instructive.

The book must be considered unusual. It raises the question of grade placement of science materials. One might question, for example, the ability of elementary-school pupils to understand some of the astronomical concepts presented, but this question is as yet an unsettled research problem. The authors

¹ Carleton Washburne and Heluiz Washburne, in collaboration with Frederick Reed, *The Story of Earth and Sky*. New York: Century Co., 1933. Pp. x+368. \$3.50

have undoubtedly succeeded in directing attention to an appreciation of the problems of the scientist and the attitudes which their solution demands. This result is perhaps a primary objective of the book, in the minds of the authors.

A. W. HURD

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CURRENT PUBLICATIONS RECEIVED

GENERAL EDUCATIONAL METHOD, HISTORY, THEORY AND PRACTICE

- BLAKE, WILLIAM H. *A Preliminary Study of the Interpretation of Bodily Expression*. Teachers College Contributions to Education, No. 574. New York: Teachers College, Columbia University, 1933. Pp. vi+54. \$1.50.
- BROWN, MARION. *Leadership among High School Pupils: A Study of Pupils Selected by Fellow Pupils to Positions of Leadership in a Certain High School*. Teachers College Contributions to Education, No. 559. New York: Teachers College, Columbia University, 1933. Pp. viii+166. \$1.75.
- CLEMENSEN, JESSIE WILLIAMS. *Study Outlines in Physics: Construction and Experimental Evaluation*. Teachers College Contributions to Education, No. 553. New York: Teachers College, Columbia University, 1933. Pp. x+154. \$1.75.
- GRAY, WILLIAM S., with the assistance of GERTRUDE WHIFFLE. *Improving Instruction in Reading: An Experimental Study*. Supplementary Educational Monographs, No. 40. Chicago: Department of Education, University of Chicago, 1933. Pp. xiv+226. \$1.75.
- HISSONG, CLYDE, and HISSONG, MARY. *An Introduction to the Principles of Teaching*. Philadelphia: John C. Winston Co., 1933. Pp. xii+260. \$2.00.
- LINDSAY, J. ARMOUR. *Annual and Semi-annual Promotion: With Special Reference to the Elementary School*. Teachers College Contributions to Education, No. 570. New York: Teachers College, Columbia University, 1933. Pp. viii+170. \$1.75.
- Needed Readjustments in Higher Education*. Edited by William S. Gray. Proceedings of the Institute for Administrative Officers of Higher Institutions, 1933, Vol. V. Chicago: University of Chicago Press, 1933. Pp. viii+284. \$2.00.
- POWELL, ORRIN E. *Educational Returns at Varying Expenditure Levels: A Basis for Relating Expenditures to Outcomes in Education*. Teachers College Contributions to Education, No. 573. New York: Teachers College, Columbia University, 1933. Pp. x+54. \$1.50.
- RETAN, GEORGE A. *Management and Teaching Technique in the Elementary School*. New York: Prentice-Hall, Inc., 1933. Pp. xx+370. \$2.00.

- Rethinking Supervision: A Cooperative Michigan Project.* Sixth Yearbook of the Department of Elementary School Principals, Michigan Education Association. Lansing, Michigan: Michigan Education Association, 1933. Pp. 158.
- ROBSON, BARBARA REID. *House Management Problems of Fraternities and Sororities: An Investigation of the Supervision or Assistance Given by Educational Institutions to Fraternities and Sororities in Their House Management Problems.* New York: Teachers College, Columbia University, 1933. Pp. 94.
- RUSK, ROBERT R. *A History of Infant Education.* London: University of London Press, Ltd., 1933. Pp. viii+196.
- SARAFIAN, KEVORK A. *French Educational Theorists.* Los Angeles, California: C. C. Crawford (University of Southern California), 1933. Pp. 134.
- YOUNG, LLOYD PERCY. *The Administration of Merit-Type Teachers' Salary Schedules.* Teachers College Contributions to Education, No. 552. New York: Teachers College, Columbia University, 1933. Pp. x+104. \$1.50.

BOOKS PRIMARILY FOR ELEMENTARY-SCHOOL
TEACHERS AND PUPILS

- BAXTER, TOMPSIE, and YOUNG, BESS M. *Ships and Navigation (Units of Work).* Lincoln School Curriculum Studies. New York: Lincoln School of Teachers College, Columbia University, 1933. Pp. xii+220.
- Helping Children Experience the Realities of the Social Order: Social Studies in the Public Schools of Ann Arbor, Michigan.* G. Robert Koopman, Chairman, Editorial Committee. Ann Arbor, Michigan: Board of Education, 1933. Pp. vi+308.
- SMITH, J. RUSSELL. *Foreign Lands and Peoples.* Philadelphia: John C. Winston Co., 1933. Pp. viii+384. \$1.44.
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THE ELEMENTARY SCHOOL JOURNAL

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THE LISTS OF SELECTED AND ANNOTATED REFERENCES AVAILABLE AS A MONOGRAPH

In December the *Elementary School Journal* and the *School Review* announced the continuance during 1934 of the lists of selected references in education published co-operatively in the twenty issues of these two journals for 1933. This issue carries the first list of the second annual cycle which, with only minor exceptions, is being prepared by the same specialists and published in the same sequence as the first cycle.

The complete first annual cycle of twenty lists is now being made available in monograph form, on the assumption that many persons will want access to this bibliographical material in a single permanent publication, especially as it is a scholarly service for students of education which is afforded in this comprehensive scope by no other agency in the country. The twenty lists cover practically the entire field of education, including such topics as the curriculum, methods of teaching, supervision, measurement, the different subjects of study, administration, organization, educational psychology, guidance, the extra-curriculum, preschool and parental education, kindergarten-primary education, education of teachers, and higher

education. The usefulness of the lists is assured by the fact that the more than eleven hundred selections included have been winnowed from the vast annual body of educational literature by almost forty recognized specialists in a dozen different higher institutions and is enhanced by annotations prepared by these specialists indicating the scope and significance of all items listed. As has previously been stated, the lists are in effect a continuance of the *Record of Current Educational Publications*, which was formerly published by the United States Office of Education but which was discontinued by that office as a forced measure of economy. The period covered by each list is the interval between April 1, 1932, and the date on which copy was needed for the *Elementary School Journal* or the *School Review* in order to carry out the sequence as planned.

The new publication bears the title *Selected References in Education, 1933*, and is issued as Number 41 of the Supplementary Educational Monographs published in conjunction with the *School Review* and the *Elementary School Journal*. It contains approximately two hundred pages, sells at 90 cents, and may be ordered from the Department of Education, 5835 Kimbark Avenue, Chicago, Illinois.

THE EFFECT OF THE ECONOMIC CRISIS ON EDUCATION

The following summary statement with respect to the effect of the economic crisis on education in this country has been made public by United States Commissioner of Education George F. Zook.

CHILDREN WITHOUT SCHOOLS

100,000 additional children are deprived of educational opportunity this fall because of the closing of schools due to lack of funds.

1,659,000 children 6-13 years old are not in school in normal years.

521,700 children 14-15 years old are without schooling in normal years.

That means a total of 2,280,000 American children of school age, who, according to most compulsory-education laws, should be in school, but are not!

Nearly 2,000 rural schools in 24 states failed to open this fall. So far no city public schools are reported closed. Many private and parochial schools are closing. Twenty-four Catholic schools have closed, affecting nearly 3,000 children. Sixteen institutions of higher education have been discontinued since last year. Estimates indicate that 1,500 commercial schools and colleges have closed.

In some communities free public schools have of necessity become tuition schools, admitting only those children whose parents can pay the rate asked. For example, in one town of 15,000 population grade-school tuition was reported

as \$3.00 per child per month; high-school tuition, \$5.50 per month. In this town at least 200 children whose parents could not pay the tuition charges were being denied an education.

SCHOOL TERMS SHORTENED

Because of lack of available funds, one of every four cities has shortened its school term; 715 rural schools are expected to run less than three months. Reductions in school terms make worse an already bad situation. In normal years schools for 1,500,000 children were open six months or less per year.

New reductions of term in city schools have come on the heels of a constant succession of reductions. Terms in practically every great American city are today one or two months shorter than they were 70 to 100 years ago.

Inadequate school terms for American children stand in sharp contrast to the school terms common for children in European countries: Denmark, 246 days; Germany, 246 days; England, 210 days, Sweden, 210 days, France, 200 days; United States, 172 days (city schools, 184 days; rural schools, 162 days).

The school-term problem is rapidly growing more serious. Prospects for the coming school year reported by some states are: Michigan—90 per cent of schools will shorten hours; Nebraska—15 per cent of schools will cut at least one month; Missouri—100 high schools, 1,500 rural schools face early closing; New Mexico—most schools will have shortened terms, Virginia—many terms will be shortened unless emergency measures are taken.

LOW SALARIES OF TEACHERS GOING LOWER

Most people have a vague idea that teachers' salaries are low. Few know how low they are. Almost no one realizes how low they have gone by comparison with other standards. For example: An unskilled factory worker laboring for a year at the *minimum* "blanket-code" rate would receive \$728, which is little enough. One of every four American teachers is now teaching at a *rate* of less than \$750 per year.

Prospects for early closing of schools make it possible to predict that one of every three teachers will this year receive for expert services less than \$750; 210,000 rural teachers (about one-half) will receive less than \$750, more than 40,000 rural teachers will receive less than \$450. One of every 13 negro teachers receives \$25 per month or less. In at least 18 states some teachers are being paid in warrants which are cashable at discounts ranging from 5 per cent up. . . .

CURTAILED SCHOOL SERVICES

Due to lack of available funds, schools have been compelled to drop over-board services of long recognized value in building better citizens. Here is what happened in about 700 typical cities:

67 reduced art instruction—36 eliminated it.

110 reduced the music program—29 eliminated it.

81 reduced the physical-education work—28 eliminated it.

65 reduced home-economics work—10 eliminated it

58 reduced industrial-art instruction—24 eliminated it.

89 reduced health service—22 eliminated it.

One of every two cities has had to reduce or eliminate one or more services by which the schools have been helping future Americans to be healthier, to be abler home-makers, more competent contributors to the life of their communities, and more intelligent users of the new leisure.

MORE CHILDREN—FEWER TEACHERS

Approximately 200,000 certificated teachers are unemployed; 18,600 fewer teachers, it is estimated, are employed in city schools today than in 1931. Thousands more have been dismissed from private schools and colleges. Small percentages of graduates of teacher-training institutions are finding positions.

If we decided to operate city schools today with the same number of pupils to a teacher that we had in 1930, it would be necessary to hire more than 26,000 additional teachers.

If we decided to provide education for the 2,280,000 children six to fifteen years of age not now in school, it would be necessary to add 76,000 teachers.

Thus, if the United States were really determined to give all its children the minimum essentials of a modern education, it would be necessary to engage one-half of all certificated teachers now unemployed. Businesses that increase take on more help. School enrolment has increased more than a million since 1930—but the number of teachers, city *and rural*, decreased more than 30,000. Teachers are unemployed, but classes grow larger. One state has forty-four pupils per teacher. The average for five states is more than forty. Teachers are unemployed despite the fact that more than 1,500,000 children will this year be taught six months or less.

MORE CHILDREN—LESS MONEY

Seven hundred and twenty-eight thousand more children were enrolled in high school in 1932 than in 1930; 115,000 fewer children were enrolled in elementary school in 1932 than in 1930 (the first decrease in the history of the country). Net gain: 613,000 pupils. This is more than the entire population of Montana. It is more than the combined populations of Atlanta, Des Moines, and Salt Lake City. It is more than were enrolled in all our public high schools in 1900. Today 93 of every 100 city children enrol in high school; 55 of every 100 rural children do likewise.

Abolition of child labor in industry by the NRA will, it is estimated, put another 100,000 children on the high-school doorstep. In one small southern town it added 137 pupils. . . .

Our nation's schools are endeavoring to give adequate instruction to an army of pupils increased since 1930 by more than 1,000,000 pupils on funds decreased about \$368,000,000. Both city- and rural-school current expenses have been cut about 20 per cent since 1930, it is estimated. To teach approximately 25,000,000 public-school pupils the United States three years ago spent \$10,700,000 for

current expenses per school day. This year the schools are teaching a larger number of children on \$8,600,000 per school day, a decrease of \$2,100,000 per day.

Per capita cost of current expense for public education in cities was cut 22 per cent from 1932 to 1933. This has been accomplished by slashing salaries, delaying needed repairs, cutting down on supplies and textbooks, eliminating important services, crowding classes, shortening terms. . . .

REASONS FOR LACK OF MONEY TO SUPPORT SCHOOLS

Schools are the most completely local of American public services. To support them, the most completely local source of income—real estate (farms, homes, stores, factories, etc.)—has been taxed.

Depression, crushing real-estate values, is in turn crushing education.

1. *Tax delinquencies.*—In some school districts 30-40 per cent of taxes on property have not been paid. Michigan tax delinquencies are estimated at \$100,000,000 last year. Missouri—\$13,800,000 school taxes delinquent.

2. *Lower assessments.*—The fact that assessments are usually made every four years kept the rate of income for schools up for a time. When new assessments now coming through cut property values by half, school income drops by half automatically.

3. *Mortgage problems.*—Farm incomes decreased; wages dropped during the depression; mortgages on farms and homes remained stationary. This changed the paying of interest on mortgages from a relatively minor charge to an overwhelming burden and contributed to tax delinquency.

4. *Differences in wealth.*—A school tax of \$10 on every \$1,000 of tangible property would produce \$58 per child in one state and \$457 per child in another state. The average cost per pupil attending school in 1930 was \$86.69. Thus, the burden of supporting schools on a property tax in a rich state is only one-eighth as heavy as it is for a poor state.

5. *Tax limitations.*—To help hard-pressed home and farm owners many states (for example, Michigan, Texas, Arkansas, West Virginia) passed laws which result in limiting the amount which may be raised by taxes on property and therefore limiting the amount a community can raise to support its schools.

6. *School funds in closed banks.*—Fifteen million dollars in school funds is frozen in the closed banks of a single state.

Thus, many schools are being ground between two millstones; former sources of income will not yield enough money to run the schools; state laws forbid increasing taxes to yield the amount necessary to run the schools.

Blocked in attempts to support schools from local sources of wealth, school patrons have turned to state governments for funds. What do they find? New sources of income are, by federal and state agreement, devoted to the all-important function of relief. Other state funds are being advanced with federal funds for roads, public works, etc. When school patrons arrive, the state treasury cupboard is bare.

EDUCATIONAL-REFORM MEASURES IN PENNSYLVANIA

Governor Gifford Pinchot of Pennsylvania is applying vigorous and intelligent leadership to the solution of some of the major educational problems of that state. Governor Pinchot's program includes three measures of major importance: (1) the appropriation of state funds to meet the immediate emergency, (2) the establishment of a graduated income tax to be devoted exclusively to education, and (3) the reorganization of local units of administration. In his message to a recently called special session of the General Assembly, the Governor urged immediate action on the first two of the items in his program.

Unless we help them, shrinkage of local revenues will, I am informed, lead to the closing of several hundred schools in this commonwealth by the first of January and thus deprive many thousands of young Pennsylvanians of the schooling which is their right. The commonwealth of Pennsylvania cannot afford to let these children suffer.

I recommend that an emergency appropriation of \$5,000,000 be made from the proceeds of the alcohol floor tax to meet the immediate emergency.

Further, I recommend the enactment of a graduated income tax devoted exclusively to school purposes. Real estate in this commonwealth cannot and should not continue to carry the whole increasing load of school taxation.

The graduated income tax is the fairest of all taxes because it bears most heavily on those who are best able to pay. Many other states are using it. There is every reason why Pennsylvania should lighten the burden of real-estate taxation for school purposes and avoid the danger of closed schools by adopting a graduated income tax. Many other states have such a tax already.

In addressing the Educational Congress held at Harrisburg somewhat earlier, Governor Pinchot expressed his views in greater detail with respect to the need of tax reform and district reorganization. He said:

I call your attention to two things, particularly: first, our archaic system of raising money for public education; second, our failure to organize public-education units on an efficient basis. Perhaps our failure to meet these problems is not entirely the fault of the educators, but the major blame must fall on us.

Both these problems are basically money problems. One, of course, is the most important problem of who shall pay the cost of public instruction. And the second is how the money that is paid can be most effectively spent.

Who is to pay for our schools? For a hundred years we have been going along on the theory that the owners of real estate should pay the bill. This is basically wrong. The proof of the pudding is the eating. Right now Pennsyl-

vania's emergency in education is principally due to inability of school districts to collect school taxes.

Inability of school districts to collect school taxes covers a lot of ground. I recognize the fact that in some cases inability means just plain lack of ability—the mixing of politics with the schools. But in a vast majority of the cases it is inability of real-estate owners to pay the school taxes.

Real estate bears 85 per cent of the local school burden, and real estate represents less than 40 per cent of our wealth. That means that nearly 60 per cent of our wealth is escaping and evading paying its proper share of our school costs.

That means that we have an archaic, time-worn, out-of-date, inefficient, broken-down system of paying the cost of public education. Under that broken-down system tax collections in school districts have fallen off 30 per cent below normal, and in many districts 50 to 75 per cent below normal.

What is the answer? I respectfully submit that the only possible answer is a graduated state income tax.

I urge that the educators of Pennsylvania go to work, and go to work now, to have the entire burden of the cost of our schools lifted from real estate and placed on incomes.

I know that the rich and the powerful will promptly set up a terrible "holler" against an income tax. But I am of the opinion that eventually the "holler" of the farm-owner, the home-owner, and the small property-owner will be so much louder than the "holler" of the rich, that the school tax burden will be transferred from real estate to incomes.

What have we done to make our distribution of school costs most efficient?

At the last session of the legislature I urged consolidation of school districts to cut down the overhead cost of public instruction. There was nothing startling or revolutionary in that recommendation. It was just plain horse sense. It was designed to wipe out a lot of inefficient and costly school units. It was designed to give the children in small, sparsely settled communities a chance for equal educational opportunities with the children in big cities.

But the legislature would not do it, and they did not do it, because they didn't want to hurt the feelings of a lot of school directors in sparsely settled districts. In other words, selfishness and blindness triumphed. Is it any wonder that a lot of people who wanted to see these smaller units wiped out should have scant sympathy for them when they come crying to Harrisburg for help now?

Why should we put a premium on selfish blindness? Why should we appropriate large sums of money to school districts that have not the slightest excuse for existing? Those are hard words, but I am convinced they are true words.

There is nothing in the proposal to consolidate school districts which detracts in the slightest from the principle of home rule in education. It only means efficient home rule. We would all think it very silly if a department store in a town of twenty thousand had the same overhead set-up as a department store in a city of a million people. If the small city department store is going to stay

in business, its overhead has to be very much lower than the big store. Our school system can't stand up with 100 students in one school district and 100,000 in another. The small school districts must be, and in the end will be, consolidated.

In the last session of the legislature, as I have just said, our plan to establish units of administration capable of handling their own affairs economically was sidetracked. And when it was sidetracked, the legislature had to pass a lot of substitute legislation. That legislation, including permissive cuts in teachers' salaries, has kept things going up to now.

But the situation has not been met. Schools are going to have to close, and they are going to have to close for the two reasons I have just discussed. Let me repeat them.

Our system of raising money for education is basicly wrong, and we are not organized to spend the money that we do get as efficiently as we should.

Now, in our present crisis, we are not going to rob Peter to pay Paul. We are not going to take money out of the mouths of unemployed to keep the schools open. So if we are going to get any place, I respectfully urge that you educators, at the same time that you ask for money to keep the schools open, agree upon a sensible means of finding that money.

My recommendation is a graduated state income tax. I am confident that such an income tax for educational services would be held to be constitutional by our courts.

And at the same time I urge you to lay the foundation for a consolidation of the least efficient units of school administration with stronger ones to cut down the overhead. That will be a long fight, as the attitude of the last session clearly proves.

PROPOSED REORGANIZATION OF SCHOOL ADMINISTRATION IN NEW YORK CITY

For some time there has been dissatisfaction with the existing framework of school administration in the city of New York. As a result of more-or-less pointed criticism, the president of the Board of Education, in 1931, requested Frank P. Graves, state commissioner of education, to make a survey of certain aspects of the school system. Commissioner Graves has submitted the first part of his report, in which he recommends a fundamental reorganization of the administrative machinery of the city school system.

The most significant change recommended is that the superintendent of schools be made the chief executive officer of the school system with full responsibility for both administrative and supervisory control. At present the superintendent shares executive authority and

responsibility with the board of superintendents, a body composed of a number of associate superintendents. The executive functions now vested in the board of superintendents, according to the recommendation, would be transferred to the superintendent, and each associate superintendent would be assigned a city-wide function with large executive authority in its administration. Commissioner Graves comments as follows with respect to the lack of authority possessed by the superintendent.

The office of superintendent of schools in the New York City system is handicapped at present in three major respects. First, the superintendent lacks the power to nominate the twelve chief educational or administrative officers upon whom he must depend for carrying out the policies approved by the Board of Education. Further, he lacks the power to nominate the subordinate administrative heads in those bureaus responsible for the financial, business, or material aspects of the school program.

Second, two of the most important aspects of administrative leadership, namely, policy formation and the exercise of judicial function, are lodged not in the superintendent of schools but in the board of superintendents.

Third, the large number of bureaus and offices responsible directly to the superintendent of schools and the lack of effective co-ordination among them place a load of administrative detail and routine upon the superintendent that makes it difficult for him to exercise the larger responsibilities of educational leadership that should be expected and demanded of a superintendent of schools in America's largest city.

While the report recommends the centralization of authority and responsibility in the office of superintendent of schools, it also recommends a liberal delegation of supervisory and administrative duties to subordinate officers and teachers in such a way as to "capitalize the best thinking of the teaching staff in every level of the service." On this matter of capitalizing the originality and creativeness of all who are engaged in school work, the report has the following to say:

The tendency of the Board of Education and the board of superintendents to be considered as the final authority for executive and judicial action retards efficient administrative action. If much of the responsibility now exercised by these boards were delegated under proper controls to associate superintendents, district superintendents, or principals, administrative procedure could be made more expeditious and effective.

There is a lack of effective, creative leadership. While there are many exceptions, there is much evidence that the currents of educational planning or policy-making are now flowing from the central office downward rather than

from the schools upward. This is another way of saying that the leadership of the school system has not yet succeeded in capitalizing the initiative and originality of pupils, teachers, and subordinate supervisory officers.

The chief needs of the New York City school system are: the more effective co-ordination of administrative supervisory activity; under proper controls, the delegation and fixing of administrative responsibility at the lowest levels consistent with effective action and justice to individuals; and the capitalization of the creative genius of pupils, teachers, principals, and other supervisory officers.

The major recommendations proposed by Commissioner Graves are included in the following summary.

1. That the Board of Education reorganize its work through larger delegation of administrative authority, in order that more time may be available for the consideration of matters of general policy.
2. That the superintendent of schools be accorded powers, through statutory amendment and revision of by-laws, that will give him full responsibility for both administrative and supervisory control of the school system.
3. That all appointments to the teaching, supervisory, or administrative staff shall be made by the Board of Education on the recommendation of the superintendent of schools.
4. That the executive functions now vested in the board of superintendents be transferred to the superintendent of schools but that the advisory function of the board of superintendents be retained and be given greater emphasis.
5. That each associate superintendent be assigned a major city-wide function or group of closely related functions and be given large executive responsibility in its administration.
6. That the assignments of district superintendents be made on a functional rather than a geographical basis and that, through the elimination of unnecessary routine, there be given greater opportunity for professional leadership.
7. That throughout the entire school organization, with the co-operation of supervisors and principals, every effort be made to capitalize the best thinking of the teaching staff in every level of the service.

A READABLE DISCUSSION OF THE BASIC PRINCIPLES OF TAXATION

Students of taxation and public finance have repeatedly pointed out the archaic and inequitable features of our tax system. The fact is that the tax system has so completely collapsed that it is utterly impossible, for the time being at least, to raise revenue for the adequate support of those social services which are absolutely indispensable. It is perfectly obvious that the maintenance of those social

services which are in many respects the finest products of our civilization will be conditioned by the wisdom with which our system of taxation is arranged. It is of the utmost importance, therefore, that a knowledge of the function and the principles of taxation be spread among the people generally.

With this end in view, the *Journal of the National Education Association* is publishing a series of articles on taxation prepared by Harley L. Lutz, professor of public finance, Princeton University, and William G. Carr, director of the Research Division of the National Education Association. These articles have been brought together and published as a booklet under the title *Essentials of Taxation*. The titles of the articles are as follows: "What Is a Tax?" "What Are Taxes For?" "What Is a Good Tax System?" "Who Pays Taxes?" "Types of Taxes: The Property Tax," "Types of Taxes: The Income Tax," "Types of Taxes: The Sales Tax," "Efficient Tax Administration," and "Getting the Facts on Taxes." These articles are all written in clear, simple language which the layman can understand. The booklet is admirably adapted to the use of laymen who may wish to arrive at an understanding of the elementary but essential principles of taxation. Teachers of the social studies in high school will find the booklet particularly valuable, not only for their own use, but for the use of their pupils as well. Copies of the booklet may be secured for fifteen cents each from the National Education Association, 1201 Sixteenth Street, N.W., Washington, D.C.

WHERE SUPERINTENDENTS AND PRINCIPALS FAIL

A recent issue of the *Washington Education Journal* carries an article by Paul W. Hanawalt, in which he summarizes the chief defects of superintendents and principals as named by the administrators themselves. Ninety administrators attending the summer session at the University of Washington were asked to name the chief defects of the superintendents and the principals under whom they had worked or to whom they had gone to school. The 509 defects mentioned were classified into 53 defects, and these in turn were classified as defects growing out of the lack of skills or the lack of proper attitudes. The defects were classified as follows:

CHIEF DEFECTS OF SUPERINTENDENTS AND PRINCIPALS

	S ¹	A ²
1. Too busy with detail for interviews.	34	..
2. Failure to supervise instruction.	28	..
3. Withholds praise where it is due, lack of encouragement		25
4. Too much egotism, talks too much.		25
5. Too aloof from the teachers.		23
6. Too much time to community and school politics . .		21
7. Has no policy, uncertainty about what is wanted	21	..
8. Lack of professional training.	18	..
9. Too dictatorial, too strict.		18
10. Working for self at expense of school.		15
11. Lack of interest in the community		15
12. Partial to teachers and to students, takes sides with pupils to save self with parents.		14
13. Lack of tact in dealings		14
14. Failure to provide worth-while teacher meetings	13	..
15. Lack of business sense, unable to meet business demands of the district and of the community. . . .	13	.
16. Unwilling to delegate authority		13
17. Does not keep staff or board posted on policy, progress, or problems of the school		12
18. Behind the times.	12	..
19. Lack of discipline	10	.
20. Lack of personal ambition or force.		9
21. Takes all credit for all that is good and blames others for whatever is wrong		9
22. Always straddles the fence.		9
23. Does not take principals in confidence when making assignments.		8
24. Mistrusts students and teachers.		8
25. Lack of vision in school work.		8
26. Makes poor assignments to teachers	7	..
27. Failure to run school on finances provided	7	.
28. Poor mixer.		7
29. Lets things slide, laziness.		7
30. Too many rules, many not enforced	6	..
31. Unwilling to help teachers.		6
32. Lack of understanding of teachers.		5
33. Failure to support teachers in matters of discipline .		5

¹ S=Skill; the actual doing of the work, technical knowledge, the how.² A=Attitude; human relationships, the way in which the work was done or perhaps not done.

	S	A
34. Not willing to admit error		5
35. Has no inspiration for teachers		5
36. Can't secure the co-operation of his teachers		4
37. Lack of sincerity in work		4
38. Wife who makes social blunders		4
39. Lack of efficiency	4	.
40. Starts too many things without consulting teachers and students		4
41. Lack of interest in student activities		4
42. Has no philosophy of education		3
43. Careless about his person		3
44. Unsympathetic toward suggestions from teachers		3
45. Afraid of public opinion		3
46. Poor housekeeper		3
47. Late to school and to classes		3
48. Robs teachers of initiative and discourages them		3
49. Passes responsibility to others and keeps himself free		3
50. Favoritism to members of the board		2
51. Delegates authority and does not stand by it		2
52. Too familiar with students for good work		1
53. Accepts low moral standards in school		1
Total	173	336

Sixty-six per cent of the defects were attributed to lack of proper attitudes and only 34 per cent to lack of ample skills. In this connection, Mr. Hanawalt calls attention to the results of an investigation by Brewer¹ of causes for discharge in industrial establishments. Brewer found that of 4,375 employees investigated 62.4 per cent had been discharged because of what he termed "lack of social understanding." He found that only 34.2 per cent had been discharged for lack of skill or technical knowledge.

THE PUBLIC SCHOOLS AS AGENCIES OF ADULT EDUCATION

The public forums now being conducted in Tulsa, Oklahoma, are an excellent illustration of effective use of the public schools as agencies of adult education. These forums, conducted in connection with the Tulsa public evening schools, are devoted to a discussion of

¹ John M. Brewer, "Causes for Discharge," *Personnel Journal*, VI (August, 1927), 171-72.

current civic, social, and economic questions. Speakers are provided free of cost by various state educational institutions and by the public-school system of Tulsa. Meetings are held in the high-school auditorium, and admission is free. The following lectures have been given during the present semester.

"Should State and Local Governments Be Reorganized?" Ford C. Harper, State Chamber of Commerce, Oklahoma City

"Can the Government Give Us a New Deal?" Miss Esther Larson, Central High School, Tulsa

"Public Control and Private Initiative in Business," Dean A. B. Adams, University of Oklahoma, Norman

"Can We Insure against Unemployment?" Professor J. M. Maurer, University of Tulsa, Tulsa

"What's Happening in the World Today? Europe," Miss Lavonne Hanna, Central High School, Tulsa

"To What Degree Can Our Economic System Be Stabilized?" Dr. D. W. Emerson, Northeastern State Teachers College, Tahlequah

"Balancing Urban and Rural Prosperity," Dean Raymond Thomas, Oklahoma Agricultural and Mechanical College, Stillwater

"The Agriculture Debt Problem," Dr. J. T. Sanders, Oklahoma Agricultural and Mechanical College, Stillwater

"Capitalism and Frontiers," Mrs. Maude Wendt, Central High School, Tulsa

"What's Happening in the World Today? Asia," Miss Nelle Bowman, Central High School, Tulsa

"The Next Step in Government—The International Unit," Miss Lucy Hampton, Central State Teachers College, Edmond

"Can We Have a Fair System of Taxation?" D. E. Temple, Central High School, Tulsa

During the spring semester a series of six lectures of the same general character will be offered in the seven junior high schools of the city. All told, more than fifty public meetings will be held during the year.

Superintendents who may be interested in this type of educational effort will find helpful suggestions in a booklet published by the Board of Education of Tulsa under the title "Your Tomorrow."

WEST VIRGINIA'S COUNTY-UNIT SCHOOL SYSTEM

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During recent months the Department of Education of West Virginia has received a number of inquiries concerning the county-unit bill and other related enactments of the legislature. This article is intended to answer these inquiries and to give a brief history of this legislation, the more important provisions of the bills, and some of the initial steps taken by the state superintendent toward putting the new system into operation. The writer believes that this information is of timely interest to every state in the Union faced with a similar need for reorganization.

In order to understand the background for the school legislation recently enacted in West Virginia, one needs to know that at the general election in November, 1932, a constitutional amendment classifying property and fixing maximum rates of levy was passed by an overwhelming majority of the people voting on the amendment. This action was clearly indicative of the rapidly growing sentiment against the ever increasing tax on property. The maximum rates in this amendment were such as to reduce materially the income from the property tax. The amount of this reduction can be roughly estimated when it is said that before the amendment the average levy throughout the state was \$2.65 on each \$100.00 worth of property and that the maximum rates on the four classes of property set by the amendment are 50 cents, \$1.00, \$1.50, and \$2.00. A general estimate based on data thus far collected would indicate that under the amendment the revenues from property tax will not exceed 60 per cent of the former returns. Hence, it is evident that West Virginia was faced with the problem of completely revising its revenue system, or its school system (which had depended on property taxes for 97 per cent of its support), or both.

The Governor, with great care and precision, outlined a definite program to submit to the legislature in order to meet this unparal-

leed emergency. The first step in this program was the passage of a bill known among legislators as "an enabling act." This act (Bill 314) allocated the portion of the levy on each class of property that might be applied to the various functions of state government. Of the 50 cent class, 28.1 cents was allocated to the schools; of the \$1.00 class, 56.3 cents; of the \$1.50 and \$2.00 classes, \$1.125. In former years the schools had been receiving almost exactly one-half of all taxes received from property. Hence, it is apparent that this allocation was exceedingly generous to education. This fact is more clearly seen when we realize the large amount of property falling in the third and fourth classes, upon which the schools get 112.5 cents.

Even with this allocation it was obvious that the school revenue would be from 35 to 40 per cent less than the amount usually received. In order that this situation could be met, two things were necessary; (1) to raise additional revenue from new sources of taxation and (2) to reorganize the school system. Consistent with economic conditions and urgent demands made by other governmental functions, the legislature decided that it could appropriate from a general sales tax only \$5,500,000 for schools, which with the usual revenues of the General School Fund made an aggregate of \$6,500,000 in addition to the income from the property tax.

Since it seemed wise to allot to schools from the very limited amount available no more than this \$6,500,000, it was apparent that any other relief for the school situation would have to result from a certain amount of economy and a reorganization within the school system itself. If the district form of organization and the same salary schedules had been continued, a decided curtailment in the length of the school term would have been necessary. In many of the poorer districts, where property largely falls in the 28.1 cent and 56.3 cent classes, the school term, without additional aid, would have been reduced to less than two months, whereas some of the wealthier districts could have had nine-month schools and still have considerable property upon which no tax would need to be laid. At this point the need of a larger taxing unit suggested itself. By actual computation it was discovered that, on the basis of the minimum term, from \$1,500,000 to \$2,000,000 more income would be available for taxes for school purposes if the county rather than the district were made

the unit of taxation. This fact, while in itself a strong argument in favor of the county unit, was not, in the judgment of the writer, the main reason for the final adoption of that unit. The county-unit system of education was adopted by the recent legislature because the Governor and the legislative leaders had a deep conviction that the rural children of the state were entitled to the same educational opportunities as were given the urban children. Governor Kump courageously took this stand. It was interesting to observe, as the debate continued day after day in the Senate and the House of Delegates, how this simple principle of equality gradually grew in favor in the minds of the legislators.

The county-unit bill made the county rather than the district or independent district the unit of both taxation and administration. More specifically, the bill abolished all previous boards of education of magisterial and independent school districts and placed the title of all school property and the control of all educational affairs in each county in the hands of a county board of education. After the general election of 1934 this county board of education of five members is to be elected by the people of the county, not more than two members being from any one subdistrict. In the interim the county boards are appointed by the state superintendent of free schools. The county-unit bill also provides that, after the expiration of the term of the present school superintendent in each county, that officer is to be appointed by the county board of education.

It will be observed that this bill provides one of the most complete forms of county-unit legislation adopted in any state in the Union. It will be noted also that the authority given the state superintendent to appoint all boards of education and his authority, through the administration of state aid (as will be seen later), over the administrative organization in the various counties, afford the new system every chance to succeed.

It was only natural that the opponents of the county unit, particularly the representatives of the independent districts, should carry the contest to the end, as they have done. The taxpayers of the independent district of Charleston instituted court proceedings to restrain the Board of Education of Charleston Independent School District from transferring the title of school property to the new

county board of education and in other ways attacked the constitutionality of the county-unit bill. The case was tried in the local court by Judge Hudson, who ruled against the plaintiff. The case was carried to the Supreme Court of West Virginia, and in each of the five bases of attack the Supreme Court upheld the constitutionality of the county-unit act.

Hardly less significant to the outlook for education in West Virginia than the passage of the county-unit bill is the passage of the General School Fund bill, which allocates some \$5,500,000 to supplement the revenues provided by the county levy. This bill is destined, in the writer's judgment, to effect immediate reorganization more surely than is the county unit, although the two provisions are designed, as one can easily see, to work together in making possible an economical and efficient organization. The main purpose of this bill is to encourage consolidation. This end is achieved by restricting the number of teachers to be employed in a given county. The bill proposes that the General School Fund shall pay the basic salary for four months for the number of teachers allotted by the specifications of the bill. The specifications are that an elementary-school teacher may be employed for each eighteen pupils in average daily attendance in counties having an average daily attendance of from one to five pupils per square mile; it allows a teacher for each twenty-two pupils in counties having from six to nine pupils per square mile; a teacher for each twenty-five pupils in counties having from ten to nineteen pupils per square mile; a teacher for each thirty pupils in counties having from twenty to thirty-nine pupils per square mile; and a teacher for each thirty-eight pupils in counties having forty or more pupils per square mile.

These brackets have been so adjusted that they eliminate about 11 per cent of the number of teachers previously employed and about the same percentage in each county. The writer has never observed a more effective method of encouraging consolidation. Of course, it is too early to know how wisely these eliminations have been made, but it is surprising to see how many counties have been able to reduce the number of teachers to conform with the allotments under this bill. The act provides an escape valve for those counties which cannot possibly meet this allocation provided they can convince the

state superintendent that to meet the requirements would work a real hardship on the school children of the county. If the county is able, it pays for the additional teachers needed; if the county cannot pay such additional teachers, the state superintendent is authorized to use supplemental aid for this purpose. The fact that these allocations have been so easily met has led the State Department to ask county superintendents why they had not already made these consolidations. Invariably the reply has been that local district boards would not permit consolidation. The county boards, on the contrary, are very generally encouraging consolidations whenever they are shown that consolidations can be made without decreasing the efficiency of the school system.

In addition to these two bills, a bill reducing salaries was passed. The salary reductions in the elementary schools were not particularly severe. With rising commodity prices the cuts will, of course, be felt, but the reductions, in the minimum salaries at any rate, will not average more than 10 per cent. The reductions in the salaries of principals and high-school teachers, however, were rather drastic. Previously there were no minimum salaries for principals and high-school teachers. The new minimum salaries range from 10 per cent to 40 per cent less than those which have been generally paid. This provision is the more regrettable because a large number of counties will be forced to reduce their salaries to the minimum. One redeeming feature of the salary bill is that it is effective for only two years, after which the original salary schedules will be automatically restored.

This review of these important bills dealing with school legislation will enable the reader to understand how West Virginia has been able to meet the problems brought about by the depression and an unparalleled reduction in school revenue resulting from the adoption of a rigid classification amendment. Of course, it remains to be seen exactly what effect this comprehensive program of legislation will have on the educational system of the state. The success will largely depend on how the educational leaders and the taxpayers co-operate in putting the legislation into effect. It is safe to predict that, unless boards of education, county superintendents, and members of the teaching staff make every effort to inform themselves of the

purpose underlying county school administration and to co-operate with state officials in making the county the unit in practice as well as in name, the experiment will prove a failure. If failure results because of lack of co-operation, the blame may justly be laid at the door of administration. However, if all the educational forces join hands with county-board members and with the State Department of Education, all working under the direction of the state superintendent and the State Board of Education, and the experiment should still fail, then the failure may be justly termed a failure of the county unit. However, close observation of other state school systems in which the county unit has been given a fair trial indicates that this larger unit is superior in almost every detail to the local-district unit of school control.

Only the initial steps in the new organization can be commented on at this time. The public has very generally approved of the appointments of county-board members made by Superintendent W. W. Trent. Realizing the importance of selecting able boards of education, Mr. Trent spared no pains in the selection of the most capable board members whom he was able to secure. It is gratifying to find that many of the most public-spirited men in the state have accepted these responsible positions. Vigorous leadership has also been asserted by Superintendent Trent and the other members of the State Department of Education and the State Board of Education in outlining guiding principles for the setting-up of county organizations that are in accord with the fundamental principle underlying county-unit administration. Meetings have been held in three cities of the state, accessible to every county superintendent and county-board member, for the purpose of acquainting these officials with the rules and regulations of the State Board of Education and the policies of the State Department of Education in administering the new system.

From all appearances, the county unit is off to a good start. Let us hope that all teachers, school administrators, parents, and taxpayers will lend their full support. If all co-operate actively, we may be sure that within a few years West Virginia's school system will be looked on as one of the best in the United States.

SPELLING DIAGNOSIS AND REMEDIAL TEACHING¹

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THE METHOD OF DIAGNOSIS

Spelling diagnosis is needed when teaching has not succeeded. The fault may be that the words are too difficult, that the method is inadequate, or that the children are deficient in some critical respect. Any or all of these difficulties may be responsible for failure. In its stricter form, diagnosis refers to deficiencies in the pupils, but it need not be limited to the pupil factor alone.

One should beware of reaching hasty conclusions concerning the cause or causes of inferior work. Spelling is not a difficult subject if properly taught. Hilderbrant (5)² maintains that it is a rare child who cannot be taught to spell to the degree of efficiency demanded by modern social conditions. There will be a few cases in which the explanation of failure is easy; there will also be a few extreme cases in which the explanation is baffling; there will be children who will be unable to spell even with the maximum of effort. These last will furnish the real test of teaching.

Guiler (4) found a correlation of $.28 \pm .14$ between spelling ability and the intelligence quotient and a correlation of $.35 \pm .13$ between spelling ability and mental age. He maintains, therefore, that no significant relation exists between spelling ability and intelligence. His data reveal that the average spelling scores of the lowest third in intelligence were higher than the average scores made by the middle third.

Horn (7) reports studies in the Eighteenth Yearbook which confirm this view. Although he found positive correlations between general ability and spelling ability, a year's teaching of three groups

¹ The third and last article in a series of three articles dealing with spelling. The first two articles appeared in the November and December numbers of the *Elementary School Journal*.

² The numbers in parentheses refer to the bibliography appearing at the end of this article. In case of quotations page references are also given.

of sixth-grade pupils of different levels of mental ability—superior, average, and inferior—showed that the inferior group gained as much as did the superior. Horn is of the opinion that the poor showing of inferior pupils revealed by school surveys may be due in part to poor teaching.

It seems safe to grant that, with a few exceptions, the pupils found in the public schools have sufficient general ability to learn how to spell. If they fail, there is "something to be done about it." Good method on the part of the teacher and application on the part of pupils are vital to spelling success. Hilderbrant says that "spelling is easy when one studies" (5: 375) and traces lack of application to poor teaching method and lack of interest.

The purpose of diagnosis is to find the cause or causes of the disability. The approach, of necessity, is often through a study of symptoms, and the conclusion may be at best an inference which must be tested to find out whether the inferred cause is the true cause. Theoretically, any symptom may be important; therefore, the teacher's analysis should be as inclusive as possible. Practically, it is well to begin with the most probable causes.

A simple outline of important points in the diagnostic and the remedial processes is indicated herewith:

1. *Personal data.*—Age, sex, racial stock, social status, occupational status of the parents, place of birth, and any other pertinent facts
2. *Symptoms.*—Achievement in spelling, school record in related subjects, mentality, reading ability, writing ability, retention, speech characteristics.
3. *Type of spelling errors.*—Adding letters to words, omitting letters, transposing the order of letters, substituting one letter for another of the same sound.
4. *Causes.*—Sensory defects, lack of development, malnutrition, lack of application, poor method of study and teaching, wrong attitude.
5. *Remedial treatment.*—Increase of time allowance for spelling, drill on pronunciation, experience associated with words, increase of rate of writing, improvement of method of study, motivation, incentives.
6. *Results.*—Measurement by standard tests, self-tests, teacher tests, check on composition and regular written exercises

The diagnostic and remedial program may be outlined in more detail by stating the steps in order:

1. Collect personal data about the pupil: age, sex, race.
2. Give the pupil a thorough physical examination, noting hearing, vision, nutrition, condition of the nervous system, condition of the glands, formation of the speech organs.

3. Check the pupil's school history with respect to age grade, marks, achievement, application.
4. Survey the instruction in spelling with respect to the methods used, the word list, grading, time allowance, motivation.
5. Test the child thoroughly, using:
 - a) Achievement tests in spelling (at least two).
 - b) Speed and comprehension tests in reading.
 - c) Speed and quality in penmanship
 - d) Word knowledge and meaning.
 - e) Power of recall.
 - f) Recognition of correct word form.
 - g) Ability to pronounce common words.
 - h) Memory span.
6. Check types of spelling errors:
 - a) Omission of letters.
 - b) Changes of letters.
 - c) Confusion of letters such as *m* and *n*.
 - d) Transposition of letters.
 - e) Doubling of wrong letter.
 - f) Attraction for certain letters in endings.
 - g) Errors in *ei* and *ie*.
 - h) Lapses due to carelessness and inattention.
 - i) Position of errors in words.
7. Introduce proper remedial instruction.
8. Keep a close check on results by repeating tests of a key nature.

STUDIES OF SPELLING DISABILITY AND DIFFICULTY

Difficulty in spelling appears to be localized in three different sources: (1) the individual learner, (2) the words, and (3) the teaching. Over-difficult words, low visual perception, and awkward teaching are sure to result in low achievement. Likewise, a combination of any two of these is certain to reduce achievement and to necessitate diagnosis.

One of the best studies of special disability has been made by Hollingworth (6). "Obviously, poor spelling may be due," she says, "to one or another of quite different defects or to a combination of several defects" (6: 127), which can be discovered only by examination. The following is a summary of the most probable causes for failure in spelling given by Hollingworth.

1. *Sensory defects* either of the eye or of the ear. Test for visual and auditory acuity.
2. *The quality of general intelligence*—Test intelligence.

3. *Faulty auditory perception*.—This defect results in faulty pronunciation. Test pronunciation

4. *Faulty visual perception*.—There is a constant tendency to shorten words by the omission of letters.

5. *Sheer failure to remember*.—Repeated tests show a rapid decline in scores.

6. *Lack of knowledge of meaning*.—Words are used inaccurately; range of vocabulary is limited.

7. *Motor awkwardness and inco-ordination*.—A slow writer misspells many words if he is forced to hurry.

8. *Lapses*.—These are errors made by children who know better. They occur at times of emotional excitement, undue haste, and under fatigue. Illness, loss of sleep, and malnutrition are likely to cause lapses.

9. *Transfer of habits previously acquired*.—May be due to changing from a phonetic foreign language to English.

10. *Individual idiosyncrasies*.—Such as the adding of a final *e* to all words and the intrusion of *m* and *n* where they do not belong.

11. *Temperamental traits*.—Such as carelessness and indifference.

Most of the conclusions concerning spelling difficulty have been based on an analysis of errors. One of the most important studies was made by Book and Harter (1). They grouped the 18,840 mistakes which they found under 18 types of errors. "These errors," they say, "represent the real causes of all the mistakes in spelling which our learners made" (1: 107). They recognized two distinct classes of errors: (1) those caused by inadequate mental control over the process of writing words which the pupils already know how to spell and (2) those caused by the failure of the pupils to observe the words correctly when studying. The second cause indicates that the words were not learned. The two classes accounted for about the same proportion of errors in all grades, but the first type appeared more frequently in Grade II than did the second. This finding is doubtless to be expected, since written spelling is in its initial stage in Grade II. A curious fact is the investigators' discovery that the tendency to guess began in Grade III and increased up to the college group. This finding furnishes good proof of the need of the dictionary habit.

The classification of the eighteen types of errors is given in Table I. Two of these errors account for nearly half of the total, namely, the omission of a letter or letters and the spelling of non-phonetic words by sound. More emphasis on recognition is the remedy for the first;

greater stress on visual perception, the remedy for the second. Both these errors suggest that, if teachers rely more on visual-motor images and less on auditory images, children will make fewer mistakes in spelling.

TABLE I
PERCENTAGE DISTRIBUTION OF EIGHTEEN TYPES
OF ERRORS IN SPELLING*

Type of Error	Per Cent
Class 1. Errors of expression (writing):	
Omission of a letter or letters.	20 50
Repeating or adding letter.	7 30
Carelessness in making letters.	6 47
Transposition of letters.	6 32
Anticipation of a letter which comes later	3 27
Substitution of one letter for another.	3 18
Using a part of one word for a part of another.	1 65
Interference of associations.	1 47
Doubling the wrong letter. . . . .	.37
Total	50 53
Class 2. Errors of phonetics and order of letters:	
Spelling non-phonetic words by sound	26 02
Partial or total ignorance of a word	7 08
Incorrect hearing or seeing of a word	4 42
Non-doubling when required	3 49
Using double letters for single letters.	3 26
One form of homonym mistaken for another	2 18
Reversing the order of letters, as <i>ei</i> for <i>ie</i>	1 17
Mispronunciation.	1 10
Use of one letter for another of the same form . . . . .	.74
Total.	49 46

* Adapted from Book and Hartter (1' 116).

Spelling errors have been classified in another way, namely, motor errors, sensory errors, and errors of fact. Motor errors comprise the omission of letters, the addition of letters, the transposition of letters, doubling the wrong letter, and substituting one letter for another. Sensory errors have been divided into two general groups: (1) the phonetic and (2) the confusional. The latter includes doubling and non-doubling. Spelling errors of fact include omission, addition, transposition, and substitution (8: 397).

Mendenhall (9) analyzed the errors of 100 pupils in spelling 2,300 words selected one grade above the usual placement. He found that the most common errors were the substitution of one letter for another (48 per cent) and the omission of letters (37 per cent). Errors caused by confusion between two words were most frequent in Grade II; the greatest difficulty in this grade occurred in the spelling of homonyms. Approximately one-half of the errors in the first six

TABLE II
PERCENTAGE DISTRIBUTION OF SPELLING ERRORS
MADE BY PUPILS IN AN ENGLISH SCHOOL*

Type of Error	Per Cent
Omission of letters:	
Silent letters	28 0
Sounded letters	8 6
Total	36.6
Insertion of letters:	
Silent letters	29.9
Sounded letters	3 5
Total	33 4
Miscellaneous:	
Confusion of vowels	11.7
Inversion of letters	10 5
Other causes	7.8
Total	30 0

* Adapted from Gill (3: 314).

grades were phonetic in character. Gill gives a distribution of errors for pupils in an English school, which is shown in Table II.

Another practical study of spelling difficulty was made by the teachers of Richmond, Indiana, as reported by Davis (2). They discovered the common causes were (1) lack of a systematic method in learning to spell, (2) poor writing, (3) faulty pronunciation, (4) lack of interest in spelling, and (5) failure to associate the sounds of letters with the spelling of words. Other errors occurred because the pupils did not have enough time for study, because they were discouraged over their poor showing in weekly tests, and because they had speech defects.

REMEDIAL WORK IN SPELLING

The Richmond teachers went farther in their program (2). After discovering the causes of difficulty, they outlined a plan of remedial instruction in line with each cause. The plan stresses the necessity of individualization of instruction, since the number of cases exhibiting a given difficulty will be small and few pupils will require the same kinds of training. The needs are distinctive, and the teaching should be individual as well.

Connecting typical causes of disability with proposals for their remedy gave the results shown in the following outline. This outline is an extension of Davis' study.

1. Has not mastered the steps in learning to spell a word
 - a) Teach steps in method until the pupil can follow them.
 - b) Study each difficult word with the pupil.
2. Writes poorly.
 - a) Practice the most difficult words many times.
 - b) Practice on words that contain writing difficulties.
 - c) Diagnose the writing difficulties and improve method.
3. Cannot pronounce the words.
 - a) Pronounce the words in advance of study for the pupil.
 - b) Teach him how to pronounce words for himself.
4. Has bad attitude toward spelling—not interested.
 - a) Supervise study until correct habits are formed.
 - b) Show the worth of knowing how to spell correctly.
 - c) Develop competition with pupil's past record.
 - d) Give prizes, honors, or awards
 - e) Display the best work of the class.
 - f) Motivate in other ways as the case requires.
5. Does not associate sounds with spelling.
 - a) Teach phonetics.
 - b) Let pupil listen carefully to pronunciations.
 - c) Teach pupil to divide words into sound elements.
 - d) Have pupil say words again and again to hear sounds
 - e) Let the pupil hear his own voice on dictaphone or phonograph.
6. Needs more time than can be given in the regular class.
 - a) Relieve pupil from other work to study spelling
 - b) Set aside special time to help him in spelling
 - c) Let another pupil help him.
 - d) Use an individual plan so that the pupil may work at his own rate.
7. Is discouraged on account of own past record.
 - a) Assign shorter lessons.

- b) Assign easier words until a good start has been made.
 - c) Help him until he succeeds.
 - d) Supply motive for faster and better work.
8. Has speech defect.
- a) Labor to eliminate the defect.
 - b) Have pupil listen carefully to pronunciation.
 - c) Have him visualize the words before writing them
 - d) Put special emphasis on the teaching of difficult parts.
9. Transposes letters.
- a) Study words carefully, noting the forms.
 - b) Underline the difficult parts of words
 - c) Teach pupil to spell by syllables.
 - d) Give plenty of practice in proofreading.
10. Copies words incorrectly when studying.
- a) Check the pupil's work as he studies.
 - b) Teach him to proofread his own work.
 - c) See that his vision is normal.
11. Cannot retain spellings for any length of time.
- a) Teach meaning and use of words.
 - b) Encourage wide reading of interesting material.
 - c) Provide for relearning and reviews.
 - d) Make extensive use of visual aids in teaching.
12. Has poor hearing.
- a) Give the child a favorable place in the classroom.
 - b) Stress visual, oral, and motor study.
 - c) Have the defect remedied, if possible.
13. Has poor vision.
- a) Give the child a favorable place to work.
 - b) Rely on kinaesthetic and auditory impressions.
 - c) Write large enough so that the child can see clearly.
 - d) Have the defect remedied, if possible.
14. Writes slowly.
- a) Give training in more rapid writing.
 - b) Dictate at a slower rate.
 - c) Let the child work independently at his own rate.

Many writers on remedial teaching point out the wisdom of testing the regular method from time to time to determine whether it is satisfactory. They advise (1) presenting the words in as many ways as practicable; (2) motivation of study; (3) the use of flash cards, progress charts, and contests; (4) the cultivation of the dictionary habit; (5) the employment of rules where these will function; and (6) the use of a sound basic method. This recommendation is the

same as saying that procedures found successful in original teaching will also work in remedial teaching. In the latter case the method is usually individualized.

Wasteful and inhibitory procedures should be eliminated. The practice of requiring every child to study every word with equal emphasis should be abandoned. Home study is probably a waste of time unless the child does it voluntarily. The mechanical rewriting of words from copy does not supply the type of practice that is sure to result in learning. Saying the letters of words over and over, or in fact any type of unvaried study, is not likely to advance spelling ability at a normal rate.

Hilderbrant (5) states that teachers now and then find a good reader who cannot spell, generally a person whose perception is accurate enough for learning reading but not concise enough for learning spelling. However, giving good readers specific training in spelling will almost always produce good spellers. Their ability in reading then tends to conserve their ability in spelling. A pupil who can become a good reader can also become a good speller.

When a word list seems too hard for a given class of pupils, two lines of action are open. First, the teacher may concentrate on the improvement of the teaching method. It is a good idea first to try such concentration, for it is not probable that the grading of words can be reduced to so nice a scale as the grading of algebra. It is not absolutely necessary that the pupils master one word form before taking up the study of another. There seems no good reason why children should not be able to master the spelling of a word whenever they can master its meaning. Second, the teacher may drop down to a list a grade or two below the list in use in order to reduce difficulty. This change has been advised as the remedy when the regular grade list is not being well learned. For example, Rohan (10) tested a class of pupils in Grade VI with these results: five had eighth-grade ability; six, seventh-grade ability; ten, sixth-grade ability; three, fifth-grade ability; and six, fourth-grade ability. He started the work with each small group on the level where it belonged as shown by the test. The pupils exhibiting fourth-grade ability did not succeed with their words; consequently, he dropped them back to the second-grade list. By the end of the year all the retarded pupils had finished

the sixth-grade work. The plan which succeeded in this case was to start the pupils right and permit them to work at their own rates.

SUMMARY

The lesson taught by diagnosis is that the chief task is to discover the method by which each pupil can learn to spell most easily and with the least danger of interference of association. At the same time, all influences which tend to retard the learning process should be removed, and influences which facilitate learning should be introduced. The solution in the case of special disability is almost wholly an individual problem, but a good method does not require an absolute single technique for all. It also preserves freedom for individual differences.

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THE OPTIMUM ORDER OF ARRANGEMENT OF ITEMS IN A DIAGNOSTIC TEST

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In the report¹ of a study of the reliability of diagnosis of difficulties in the multiplication of fractions, it was demonstrated that an individual diagnosis based on the results of a diagnostic test containing single examples of given types is likely to be invalid and unreliable. This fact was shown by analyzing the work of pupils on a test containing four examples of each of six different types arranged in random order. Data were presented indicating how many of the four examples of each type were worked incorrectly and to what extent the nature of the errors was the same from example to example. In many cases only one example of the four was solved incorrectly, while in a considerable number errors were made in all four examples. The conclusion was reached that tests used for individual diagnosis should include at least three, preferably four, examples of each type. When all four examples are solved incorrectly, a fairly reliable diagnosis can be made, since in that case, the investigation showed, there is likely to be a highly persistent type of error found in all examples. It was also shown that, in addition to these constant errors, many errors that vary from example to example of a single type will likely occur—a fact which complicates the problem of diagnosis. The large number of cases in which only one or two examples of the four of a particular type were solved incorrectly shows that many chance errors are made.

The question may be raised: What should be the format of a diagnostic test? What is the best method of arranging the examples

¹ Leo J. Brueckner and Mary Elwell, "Reliability of Diagnosis of Error in Multiplication of Fractions," *Journal of Educational Research*, XXVI (November, 1932), 175-85.

Type B.	$6\frac{1}{4}$ $-2\frac{1}{2}$ ——	Mixed number subtracted from mixed number. Unrelated. The common denominator is the product of the given denominators. The remainder is a mixed number. Borrowing. No reduction
Type C.	$6\frac{1}{8}$ $-3\frac{3}{8}$ ——	Mixed number subtracted from mixed number. Similar denominators. Borrowing. The remainder is a mixed number. No reduction.
Type D.	1 $-\frac{4}{8}$ ——	Fraction subtracted from 1 The remainder is a proper fraction. Borrowing. No reduction
Type E.	$5\frac{8}{8}$ $-\frac{4}{8}$ ——	Similar denominators. Fractions equal The remainder is a whole number. Zero difficulty.
Type F	4 $-2\frac{1}{2}$ ——	Mixed number subtracted from whole number. Borrowing. The remainder is a mixed number. No reduction.

Two tests were constructed, each containing four examples of each of the six types. Both tests contained exactly the same examples. In Test A the examples of each type appeared together in one line. In Test B the examples were arranged in a random order, no two examples of the same type appearing in the same row. These tests were then given to typical sixth-grade classes who had just completed the work in subtraction of fractions. In approximately half the cases, 221 in all, Test A was given first, then Test B. The order was reversed in the other half, 224 cases in all. The tests were given at intervals of a week or less, in some cases after a day. In the interval the pupils received no instruction in subtraction of fractions. The pupils were allowed as much time as they needed to complete the work.

Table I contains the composite results for all classes regardless of the order in which the tests were given. The data in this table indicate that the format of the test is apparently not a factor affecting the difficulty of the test as measured by the number of errors made by the pupils. On Test A, in which all examples of each type were in one line, there were only eight more errors than on Test B, in which there was a random arrangement. The difference between the means was only .02 of an example, which is obviously not important. The

correlation between the numbers of incorrect examples in Tests A and B was $.77 \pm .031$.

As already explained, the order of giving the two tests was rotated so that in approximately half the cases Test A was given first and in the other half Test B was given first. Table II shows the relation of the order in which the tests were given to the total numbers of errors that were made on all types combined. These data show clearly that the number of errors in the first test was considerably larger than the number of errors in the second test irrespective of which form of the test was given first. This result may be ascribed

TABLE I
NUMBER OF ERRORS MADE BY 445 SIXTH-GRADE PUPILS
ON TESTS A AND B IN SUBTRACTION

Test	NUMBER OF ERRORS		STANDARD DEVIATION
	Total	Average	
Test A (examples of a single type on a line)....	2,345	5.27	5.94
Test B (examples in mixed order),	2,353	5.29	5.79
Difference,	8	.02	. . . . .

in large part to practice effect, since there was no teaching in the interval between the tests. The pupils in Group I made 259 fewer errors on Test B when given second than on Test A when given first. This reduction is 22.9 per cent of the total number of errors on Test A. The pupils in Group II made 267 fewer errors on Test A when given second than on Test B when given first. This reduction is 18.0 per cent of all the errors on Test B. The difference between the average numbers of errors on the first and the second tests was practically the same for both groups, namely, 1.2 errors. The decrease may be ascribed to the practice effect of repeating the work on identical examples, although the order of arrangement of the examples was not the same in the two tests. On both tests the pupils in Group II made more errors than did the pupils in Group I, although the relative improvement between the two tests was practically the same for both groups (in spite of the fact that the order of the tests

was reversed in the two groups). The results for Test A were similar for both groups: Group I made an average of 5.1 errors on Test A (given first), while Group II made an average of 5.4 errors on Test A (given second). On Test B the pupils in Group I made an average of 2.7 fewer errors than the pupils in Group II. The question may be raised: What would have been the results in Group II if Test A had been given first instead of Test B? The results secured in Group I indicate that the difference between the scores on the two tests would

TABLE II
DECREASE IN THE NUMBER OF ERRORS AS RELATED
TO THE ORDER OF GIVING THE TESTS

	NUMBER OF ERRORS	
	Total	Average
Group I (221 pupils):		
Test A given first	1,129	5.1
Test B given second	870	3.9
Difference (A-B)	259	1.2
Group II (224 pupils):		
Test B given first.	1,483	6.6
Test A given second.	1,216	5.4
Difference (B-A)	267	1.2

probably have been in the same direction as those in Group I, and it is likely that on the average Group II would have made more errors on Test A than were made by Group I. In the case of these two groups whatever differences there are between the results for the two tests are practically obviated when the data for both groups are consolidated.

It may be of interest to analyze the work done by pupils in the two tests on the several examples of each type. Table III contains a comparison of the number of pupils who solved each example of each of the six types incorrectly on Tests A and B, regardless of the order in which the tests were given. It will be recalled that the examples of a given type all contained the same skills but different numbers; however, all numbers used were small. Table III in most

instances reveals practically the same consistency for individual examples as was found for all items combined, although there are minor differences from type to type. For instance, Example 1 of Type A was solved incorrectly by 104 pupils in Test A (with examples of a single type on a line) and by 120 pupils in Test B (with ex-

TABLE III

VARIATIONS IN THE NUMBER OF ERRORS ON IDENTICAL EXAMPLES OF EACH TYPE IN TEST A (WITH EXAMPLES OF A SINGLE TYPE ON A LINE) AND IN TEST B (WITH EXAMPLES IN MIXED ORDER)

Test	NUMBER OF ERRORS ON EXAMPLE				ERRORS ON EXAMPLES 1-4	
	1	2	3	4	Total Num- ber	Percentage of Number of Errors on Entire Test
Type A:						
Test A	104	84	113	82	383	16.3
Test B	120	109	139	98	466	19.8
Type B:						
Test A	126	102	107	92	427	18.2
Test B	128	119	116	90	453	19.3
Type C:						
Test A	89	111	101	95	396	16.9
Test B	95	79	80	93	347	14.7
Type D:						
Test A	97	97	97	106	397	16.9
Test B	89	78	95	83	345	14.7
Type E:						
Test A	97	87	86	87	357	15.2
Test B	97	89	83	92	361	15.6
Type F:						
Test A	100	91	100	94	385	16.5
Test B	85	90	101	100	376	15.9

amples in random order). It is worth pointing out that all four examples of Type A were solved incorrectly more often on Test B than on Test A, although the differences are slight. The reverse is true for Type D. In the case of the other types there is no consistent trend. The percentages of error on Types C, D, and F are slightly greater for Test A than for Test B, while on Types A, B, and E the percentages of error are slightly greater for Test B than for Test A. In all cases the differences are small. On the basis of consolidated

results, all types were of approximately the same degree of difficulty, although some examples were more difficult than others.

The results given, together with those of the earlier study, justify the recommendations that diagnostic tests suitable for individual diagnosis should consist of at least four examples of each type and that the examples of each type, because of the greater ease in scoring and analysis, should be arranged together in one row. The number of errors made by the pupils will be approximately as great in such a test as in a test in which the examples are arranged in a random order. When such a test is given, the teacher may, without further analysis, direct the pupils who missed only one or two of the four examples to correct their errors at once. Pupils who make errors on three or four examples should be considered as a group, and their work should be analyzed to locate persistent faults. Remedial work can then be efficiently planned. These recommendations should be checked by giving similar tests of other processes. The tests should also be given during the time the pupils are learning the process, not at the end of an extended period of study as was done in this investigation. Conceivably, a somewhat different set of specifications would be developed for diagnostic tests to be given while the pupil is learning a process. It is also apparent that a much more detailed series of such tests is needed than is now available, since a single diagnostic test consisting of four examples of each of the fifty-five types of examples in subtraction of fractions would obviously be too long and too cumbersome to administer.

THE VOCABULARY OF CHILDREN'S LETTERS WRITTEN IN LIFE OUTSIDE THE SCHOOL

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INTRODUCTION

The findings of many investigations of adult writing have been published in the educational yearbooks and magazines. Lists of words used in themes, lists of words spoken by young children, and the reading word lists of both children and adults are well known to educators everywhere. Although considerable research on the vocabulary of children's letters has been done under the direction of such men as Ashbaugh, Breed, French, Horn, and McKee, no extensive word list of the vocabulary used by children in letters written in life outside the school has been published. Such a list should be useful to children, teachers, supervisors, and curriculum specialists. The writer made an investigation¹ two main purposes of which were to present the vocabulary used and to indicate the spelling errors made by children in letters written in life outside the schools.

THE COLLECTION OF LETTERS

Elementary-school children of several hundred city and rural school systems in ten states were asked for letters which they had received through the mail from their young friends and relatives, children like themselves, and which had been written in life outside the school. A total of 3,184 personal letters written in life-situations by children of the fourth, fifth, and sixth grades were used as the data for this study. These letters were written in forty-one states of the United States, and most of them were dated in 1929 and 1930. Sixth-grade children had written 1,243 of the letters; fifth-grade children, 1,199; and fourth-grade children, 742. Nine hundred and fifteen of the letters were written by boys and 2,269 by girls. Children who attended town and city schools wrote 2,035 of the letters, and 1,149 were written by children who attended rural schools.

¹ James A. Fitzgerald, "The Vocabulary, Spelling Errors, and Situations of Fourth, Fifth, and Sixth Grade Children's Letters Written in Life outside the School." Unpublished Doctor's thesis, University of Iowa, 1931.

THE WORD LIST

In the 3,184 personal letters comprising 461,321 running words, 7,340 different words found in *Webster's New International Dictionary* and 145 expressions not found in this dictionary occurred. In the 742 letters written by fourth-grade children, comprising 87,690 running words, 3,327 different words were found. In the 1,199 personal letters written by fifth-grade children, comprising 168,188 running words, 4,705 different words were found. In the 1,243 letters written by sixth-grade children, comprising 205,029 running words, 5,575 different words were found. The frequencies of use and of error of each word for each grade were recorded. Space will not permit the presentation of these three grade lists or the complete composite list for the three grades in this article. The 2,106 words occurring eight or more times are presented in Table I.

This list is the central core of the vocabulary which elementary-school children use in letters written in life outside the school. Although these words were found in the letters of fourth-, fifth-, and sixth-grade children, the overlapping in their use indicates their importance for other grades as well. Of the 2,106 words presented, approximately 2,000 were used in letters of all three grades. All except 6 of the words were used in sixth-grade letters; all except 21 were used in fifth-grade letters; and all except 99 were used in fourth-grade letters. These 2,106 words and their repetitions make up approximately 97 per cent of the running words which the children used in the letters of this investigation. Consequently, this list should assist curriculum-makers in selecting words for spelling. The frequency of occurrence in children's letters written in life-situations is an important factor, not only in the selection of words, but also in the grade placement of words. The frequency of error indicated in this list gives a cue to the need for aggressive teaching of many of these words. Furthermore, the index of difficulty, which can be secured by dividing the frequency of use by the frequency of error, should be helpful in the selection of words for review. With these data concerning the use and the difficulty of children's vocabularies, curriculum experts, supervisors, and teachers should be able to attack the problem of spelling more intelligently and persistently than heretofore.

TABLE I

THE COMMONEST WORDS OCCURRING IN 3,184 LETTERS WRITTEN IN
LIFE OUTSIDE THE SCHOOL BY FOURTH-, FIFTH-, AND
SIXTH-GRADE CHILDREN

Word	Fre- quency of Use	Fre- quency of Error	Word	Fre- quency of Use	Fre- quency of Error	Word	Fre- quency of Use	Fre- quency of Error
a	10,904	7	appendicitis .	12	9	he	1,389	7
able	97	4	apple	20	0	beach	16	3
about	1,357	32	apples	25	0	beads	101	7
above	23	1	Apr.	51	10	beans	14	0
absent	13	1	April	398	22	bear	12	0
accident	12	4	April fool . . .	14	2	beat	67	2
account	15	5	apron	31	2	beautiful . . .	60	7
ache	11	1	are	6,223	38	beauty	15	1
acres	11	2	aren't	69	18	because	1,077	89
across	50	9	arithmetic . . .	20	7	bed	311	5
act	12	0	arithmetic . . .	263	24	bedroom	29	12
add	12	1	arm	38	3	bedtime	30	11
address	251	38	around	333	14	been	1,056	29
aeroplane . . .	10	3	arrived	13	2	before	368	31
afraid	55	2	art	48	0	began	26	3
after	461	7	as	1,283	3	beginning . . .	15	5
afternoon . . .	285	44	ashamed	15	0	behind	27	1
afterwards . . .	10	2	ask	134	4	being	66	4
again	437	26	asked	107	3	believe	45	15
against	26	0	asking	17	2	bell	18	0
age	70	0	at	1,805	11	belong	19	0
ago	322	9	ato	46	1	below	41	3
ahead	33	1	attend	14	1	belt	18	0
ain't	35	9	auditorium . . .	14	5	berries	9	1
air	19	1	Aug.	46	7	beside	16	2
airplane	32	11	August	38	2	besides	36	2
airport	8	3	aunt	334	17	best	309	2
alfalfa	19	0	auntie	14	2	bet	117	2
alive	15	0	aunts	11	1	better	479	14
all	2,584	24	aunt's	17	7	between	34	0
all right	161	81	auto	8	1	Bible	35	5
almost	134	19	autograph . . .	8	0	bicycle	37	7
alone	66	2	Ave.	46	4	big	501	6
along	507	33	average	37	4	bigger	19	8
already	190	47	away	245	13	biggest	16	5
also	327	13	awful	118	26	bike	24	0
altar	10	3	awfully	23	3	hilly goat . . .	10	3
although	43	6	awhile	77	47	bird	34	0
altogether . . .	9	2	babies	21	0	birds	28	2
always	198	20	baby	299	11	birthday	472	40
A M.	10	0	baby's	10	4	bitt	88	3
am	3,879	98	back	533	4	black	137	2
American . . .	8	0	backache	11	1	blackboard . . .	17	7
among	13	2	bad	197	1	blame	8	0
an	349	5	bag	24	1	blew	17	0
and	13,785	70	bake	8	0	block	25	1
angry	16	1	baked	9	0	blocks	43	5
animals	22	2	ball	125	2	bloom	18	1
ankle	18	2	balls	11	1	bloomers	35	6
anklets	15	6	band	39	1	blowing	15	2
another	218	16	bank	21	0	blue	90	2
ans.	45	14	banking	11	0	board	48	4
answer	638	34	baptized	11	10	boat	24	0
answered	38	5	bar	22	0	boats	9	0
answering . . .	48	1	bark	8	0	body	10	0
answers	11	1	barn	42	0	book	286	3
anxious	31	2	bars	10	0	booklet	16	1
any	733	21	baseball	84	28	booklets	27	4
anybody	29	7	basement	27	2	books	146	8
anyhow	23	6	basket	53	6	booth	11	0
anyone	26	8	basket ball . . .	111	30	born	36	2
anything	227	51	baskets	23	5	both	122	10
anyway	144	29	bat	13	1	bother	16	0
apiece	14	8	bath	27	0	bottle	56	4

TABLE I—Continued

Word	Fre- quency of Use	Fre- quency of Error	Word	Fre- quency of Use	Fre- quency of Error	Word	Fre- quency of Use	Fre- quency of Error
bottles	13	0	card	163	3	coasting	15	2
bottom	13	2	cards	85	1	coat	73	0
bought	96	5	care	99	4	coats	10	0
bowl	9	1	carnival	20	8	coals	9	0
box	335	2	carry	18	2	coffee	23	2
boxes	41	10	cars	26	2	cold	400	11
boxing	9	1	case	23	1	colder	11	0
boy	310	2	cases	9	0	colds	16	0
boys	359	16	cat	53	0	collar	8	2
boy's	17	11	catch	40	5	collage	21	5
bracelet	18	3	catechism	13	5	collie	9	1
bread	16	0	Catholic	18	1	color	39	4
break	15	3	cats	27	1	colored	16	2
breakfast	27	2	cattle	31	2	colors	10	0
bridge	31	5	caught	63	11	coll	12	0
bright	8	0	cause	27	1	comb	30	4
bring	130	2	cave	11	0	come	1,195	24
broadcast	9	2	cellar	11	6	comes	105	6
broke	106	9	central	14	0	coming	434	59
broken	21	2	cents	45	1	committee	8	4
brother	200	12	certainly	64	7	communion	81	3
brothers	84	4	certificate	9	2	company	9	2
brother's	9	6	chair	17	0	composition	11	2
brought	131	10	chairs	15	1	confirmed	10	3
brown	63	4	chance	34	2	consolidated	123	3
brush	11	0	change	29	1	contest	14	1
buggy	10	5	changed	24	0	convention	15	0
build	16	1	charge	8	0	cook	20	0
building	69	2	chase	10	1	cookies	20	0
buildings	33	1	chased	10	0	cooking	12	0
built	19	2	checkers	9	2	cool	8	0
bunch	26	2	chicken	41	2	copy	119	1
bunk	10	0	chicken pot	24	9	corn	29	2
buried	12	7	chickens	91	8	corner	26	2
burn	10	0	chicks	42	0	cost	9	0
burned	20	4	child	15	0	costs	8	0
burnt	15	4	children	279	15	costume	9	2
bush	48	5	children's	8	2	costumes	12	0
bushels	10	2	chocolate	15	2	cottage	16	1
bustiness	26	9	choir	13	3	cotton	8	1
busy	171	8	choose	11	3	cough	379	14
but	2,769	16	chores	16	3	could	143	32
butchered	9	1	chore	10	3	couldn't	17	1
buy	68	7	chosen	9	2	count	14	1
by	385	4	Christmas	704	36	counting	9	5
bye	15	0	Christmas tree	20	0	country	34	0
bye-bye	15	7	churn	8	0	couple	53	6
cabin	12	0	church	168	9	course	75	13
cabin	12	0	circus	17	3	cousin	782	78
cake	84	3	citizen	13	0	cousins	45	3
cakes	13	1	city	113	4	cover	17	2
call	44	0	class	208	1	covered	36	2
call	117	1	classes	13	0	cow	10	4
called	127	6	classmate	13	1	cowboy	97	13
calling	9	0	clay	9	0	coyotes	23	13
calves	18	13	clean	45	1	crazy	24	2
came	480	1	cleaned	18	1	cream	32	3
camera	10	3	cleaning	18	0	creak	8	2
camp	30	1	clear	13	0	crêpe	15	6
camp fire	10	5	climb	13	1	cries	8	2
camping	11	0	close	1,336	40	crops	15	0
can	1,043	11	closed	16	0	cross	19	0
candles	13	1	closer	9	0	crowd	15	1
candy	201	4	closing	21	2	cry	20	0
canning	13	3	cloth	9	0	crying	11	0
cannot	86	41	clothes	70	15			
can't	364	45	cloudy	8	0			
cap	22	0	club	106	0			
captain	15	3	Co	12	0			
car	161	2	coal	19	1			

TABLE I—Continued

Word	Fre- quency of Use	Fre- quency of Error	Word	Fre- quency of Use	Fre- quency of Error	Word	Fre- quency of Use	Fre- quency of Error
cup	9	0	dolls	61	3	everyone	63	25
cupboard	0	5	done	143	7	everything	108	28
curly	0	1	don't	1,380	225	evannuation	44	8
curtains	8	0	door	60	1	examinations	75	11
cut	40	0	doors	10	0	exams.	58	17
cute	116	2	down	1,130	40	except	103	23
cutest	14	4	downstairs	14	10	excepting	8	1
cutting	14	1	dozen	10	1	excited	0	2
dad	186	2	Dr	17	3	exciting	8	1
daddy	313	42	draw	56	5	excuse	221	20
daddy's	10	6	drawing	76	6	exercise	8	2
dad's	10	6	dread	8	2	exercises	10	3
dally	9	0	dress	181	2	exhibit	12	0
darn	12	0	dressed	23	4	expect	40	2
dance	70	0	dresses	56	0	expecting	20	1
danced	21	0	drew	34	8	extra	11	0
dancing	8	0	dell	17	1	eye	21	0
dandy	33	0	dills	8	0	eyes	74	3
dark	40	0	dink	12	0	face	33	0
darling	9	0	dive	25	0	faces	10	1
daughter	14	2	driving	15	1	factories	10	2
day	882	6	drop	47	0	factory	9	2
days	407	20	dropped	11	6	fair	66	1
dead	34	4	drove	23	0	fairy	9	0
deal	11	2	dry	21	0	fall	52	0
dear	3,136	19	duck	21	0	falling	9	0
dearest	88	10	ducks	28	6	falls	18	1
death	14	0	dumb	15	4	family	126	14
Dec.	220	54	during	61	2	far	135	4
December	75	1	Dutch	11	0	farm	124	5
decided	23	3	each	149	1	fast	40	1
decimals	11	4	ear	9	0	fat	60	0
decorated	9	2	early	33	0	father	262	6
dedicate	10	2	east	13	0	father's	14	0
deep	34	0	eat	54	0	favor	10	2
deer	21	4	Easter	167	15	favorite	9	3
depot	10	1	easy	60	0	Feb	437	109
desk	10	0	eat	125	0	February	88	25
desks	8	0	cating	27	1	feed	37	1
dialogue	9	6	egg	21	2	feeding	18	2
did	1,360	3	eggs	123	0	feel	113	12
didn't	638	117	eh	16	0	feeling	424	28
died	102	2	eight	107	3	feet	81	1
difference	10	2	eighteen	15	1	fell	83	5
different	95	12	elighth	40	1	fellow	16	0
dime	12	0	either	84	18	felt	18	1
dining	17	6	election	9	0	fence	18	2
dinner	182	3	electric	18	6	fetc	9	2
diphtheria	9	4	eleven	107	5	fever	8	0
dirty	15	1	else	125	20	few	482	0
disappointed	10	7	embroidery	10	5	field	49	12
dish	11	0	empty	9	1	fields	9	0
dishes	56	0	end	83	0	fifteen	40	2
district	17	2	engine	19	0	fifth	322	13
ditch	8	1	English	71	5	fifty	16	0
div	9	0	enjoy	62	5	fight	22	0
divided	9	1	enjoyed	47	9	fighting	9	1
division	13	4	enjoying	11	2	file	10	1
dizzy	8	2	enough	129	14	fill	13	0
do	2,045	9	envelope	24	7	filled	24	3
doctor	54	6	envelopes	10	7	final	15	4
doctors	8	1	especially	22	6	finally	19	6
does	195	11	etc.	19	5	find	155	10
doesn't	81	29	etc.	11	1	finds	19	1
dog	143	1	even	86	1	fine	1,388	31
dogs	19	2	evening	168	7	finger	20	0
doing	230	6	events	9	0	finger nail	10	4
doll	157	3	over	240	14	fingers	10	0
dollar	35	3	every	591	29	finish	41	0
dollars	41	6	everybody	149	68	finished	76	11

TABLE I—Continued

Word	Fre- quency of Use	Fre- quency of Error	Word	Fre- quency of Use	Fre- quency of Error	Word	Fre- quency of Use	Fre- quency of Error
finishing	8	0	game	155	1	grow...	24	1
fire	77	2	games	132	6	growing	26	1
firecrackers	8	0	gang	14	0	grown	16	0
fires	10	0	garage	15	1	guess	755	90
fireworks	11	3	garden	53	3	gum	10	1
first	375	23	garters	29	8	gun	32	0
fish	63	1	gas	10	0	guy	8	0
fishing	45	1	gave	332	4	gym	49	8
fit	11	0	gee	15	0	gymnasium	8	0
five	194	1	geese	15	2	ha	360	9
fix	10	0	geog.	17	6	habit	9	1
fixed	40	3	geography	200	17	had	2,780	17
fixing	15	0	German	9	0	hadn't	16	0
flag	25	2	get	1,991	17	ha-ha	31	27
flash light	8	0	gets	105	8	hail	9	0
flat	12	0	getting	762	05	hair	114	2
flax	10	0	giant	9	1	half	171	0
flow	8	0	gift	18	0	hall	26	2
flies	9	5	gifts	21	1	Halloween	136	58
food	12	1	girl	346	5	hand	50	0
foor	40	0	girls	293	16	handed	43	0
floors	8	0	girl's	27	13	handkerchief	99	21
flower	33	8	give	254	2	handkerchiefs	109	29
flowers	85	8	given	26	2	hands	32	3
flu	31	13	gives	39	0	hang	11	2
fly	12	0	giving	28	0	hanging	13	1
flying	11	0	glad	779	13	happen	15	0
folks	174	10	glass	21	1	happened	33	13
fool	11	1	glasses	26	1	happy	134	3
foot	35	0	gloves	41	6	harry	261	2
football	71	18	go....	1,800	10	harder	8	0
for	3,566	55	goes	123	8	hardest	15	0
ford	12	0	going	2,666	50	hardly	117	10
forenoon	10	1	gold	20	0	has	1,161	17
forgot	150	6	golden	9	0	hasn't	76	18
forgive	10	1	golf	17	1	hat	70	1
forgot	149	21	gone	150	2	hatch	8	1
forgotten	20	3	good	1,107	3	hate	60	0
forty	9	1	goods	20	0	hated	9	0
found	109	3	good-by	212	123	hats	9	0
fountain	10	2	good-bye	192	113	hauling	9	3
fountain pen	45	4	good-night	25	20	have	7,375	88
four	240	13	goose	44	0	haven't	513	154
fourteen	10	0	gosh	11	0	having	481	29
fourth	250	50	got	3,257	19	hay	34	0
fox	8	0	goten	33	5	he	1,604	4
fractions	18	2	grade	1,493	20	head	93	0
free	35	0	grader	20	0	headache	27	5
freeze	15	1	graders	48	0	health	35	1
fresh	9	0	grades	101	3	hear	485	44
Fri	40	8	graduate	8	0	heard	204	7
Friday	372	46	grain	9	0	hearing	8	0
friend	1,444	170	grammar	13	2	heart	28	2
friendly	14	1	grand	13	2	hearts	10	1
friends	129	23	grandfather	15	4	held	12	0
friend's	8	4	grandma	205	21	hello	202	40
from	2,112	78	grandma's	35	15	help	119	1
front	55	5	grandmother	48	9	helped	37	1
froze	40	7	grandmother's	12	7	helping	25	2
frozen	11	0	grandpa	113	15	hen	36	0
fruit	22	1	grandpa's	19	6	hens	31	0
fruits	11	2	grapes	8	0	her	1,382	40
ft.	30	1	grass	11	0	here	1,617	73
full	65	5	gray	20	1	here's	14	10
fun	737	11	great	91	1	hers	32	4
funeral	24	3	green	69	0	herself	18	5
sunny	116	10	street	12	0	he's	40	8
fur	11	0	ground	63	4	hid	9	0
furnace	8	2	rounds	11	0	hide	14	0
furniture	16	2	group	17	5	hugh	118	4

TABLE I—Continued

Word	Frequency of Use	Frequency of Error	Word	Frequency of Use	Frequency of Error	Word	Frequency of Use	Frequency of Error
higher	13	0	instead	38	4	large	74	0
highest	33	1	institute	10	3	larger	10	0
high school	82	11	interest	11	2	largest	38	3
highway	12	1	interested	25	2	last	903	2
hike	27	1	interesting	78	14	late	98	2
hull	57	0	into	142	11	late	91	13
hulls	57	1	invited	28	3	later	38	2
him	523	7	iron	15	1	laugh	21	0
himself	13	2	ironing	10	1	laughed	19	4
hired	16	4	is	8,403	16	laughing	13	2
hus	530	6	island	9	0	laundry	10	0
history	187	2	isn't	281	58	lawn	8	0
hit	40	2	it	6,318	25	lay	20	0
ho	43	0	its	38	8	laying	18	0
hog	10	0	it's	301	183	lazy	18	1
hogs	13	0	I've	114	37	lb	15	3
hoid	10	0	jacks	10	0	lbs	21	1
holder	12	0	Jan	326	86	lead	8	1
holding	0	0	January	75	4	leader	11	1
hole	15	0	jar	8	0	league	17	4
holes	10	1	job	26	1	learn	53	6
home	959	24	join	14	1	learned	43	0
honey	15	2	joined	25	1	learning	25	0
honor	19	2	joke	10	0	least	26	3
hope	1,352	28	jokes	9	0	leather	11	0
hoped	9	0	journey	8	3	leave	47	2
hopes	8	0	July	107	0	leaves	17	2
hoping	92	1	jump	32	5	leaving	17	2
horn	13	1	jumped	16	1	left	187	0
horse	82	4	jumping	17	0	leg	30	1
horseback	25	14	June	107	1	legs	23	1
horses	71	4	junior	53	1	less	52	2
hospital	110	28	just	1,501	23	lessons	139	13
hot	100	1	keen	20	1	let	273	5
hotel	10	1	keep	87	1	lets	30	2
hour	16	3	keeping	11	2	let's	12	5
hours	76	1	keeps	17	2	letting	2,280	55
house	536	8	kept	34	0	letters	394	20
houses	10	0	kick	19	0	letting	9	1
how	2,634	34	kicked	14	0	library	30	2
how's	40	25	kid	45	0	life	24	0
hugs	15	8	kids	210	4	light	43	2
hundred	66	0	kill	15	0	lights	21	1
hundreds	10	1	killed	49	4	like	2,433	13
hungry	16	4	kind	135	1	liked	88	0
hunt	51	3	kinds	42	1	likes	59	3
hunting	9	6	king	11	0	line	58	0
hurdles	91	6	kiss	29	0	lines	224	3
hurry	69	1	kisses	94	3	list	0	1
hurt	59	1	kitchen	33	1	listen	38	1
hurts	9	1	kitten	20	1	listening	21	1
hygiene	59	13	kittens	21	0	lit	8	1
I	24,326	36	kitty	10	2	little	1,019	18
ice	76	0	knees	16	2	live	273	3
ice cream	59	14	knew	42	0	lived	34	1
Id	59	5	knife	10	0	lives	51	1
If	1,056	8	know	1,221	125	living	57	7
ill	363	84	known	8	0	load	11	2
I'm	529	148	knows	20	6	loads	20	3
imagine	11	2	kodak	8	1	located	8	0
important	6,827	14	ladies	11	3	lonely	9	1
in	14	3	lady	36	4	lonesome	78	13
inch	18	0	laid	19	7	long	565	2
inches	40	2	lake	125	0	longer	28	1
Indian	18	3	lakes	14	0	longest	9	1
Indians	19	5	lamb	8	1	look	106	1
industrial	9	0	lambs	11	0	looked	72	0
ink	49	1	lamp	9	1	looking	60	1
inside	19	1	land	20	0	looks	67	1
			language	127	13	loose	14	3

TABLE I—Continued

Word	Fre- quency of Use	Fre- quency of Error	Word	Fre- quency of Use	Fre- quency of Error	Word	Fre- quency of Use	Fre- quency of Error
lost . . .	76	2	min . . .	20	4	New Year's Day	9	6
lot . . .	558	14	mind	40	2	next . . .	602	13
lots . . .	456	20	mine . . .	171	8	nice . . .	702	11
loud . . .	14	3	mines	15	1	nickel . .	12	3
love . . .	716	10	minute	18	4	noce . . .	24	9
lovely . .	53	7	minutes	51	10	night . . .	796	18
loving . .	103	13	mirror . .	12	3	nightgown .	13	4
lovingly .	41	7	Miss . . .	942	34	nights . . .	22	1
low . . .	22	0	miss . . .	112	5	une . . .	119	2
lower . . .	10	1	missed . .	79	17	nineteen . .	8	1
lowest . .	19	0	missing . .	10	1	ninth . . .	11	1
luck . . .	54	3	mistakes	28	4	no . . .	327	15
lucky . . .	25	6	mittens	18	2	no . . .	12	6
lunch . . .	99	3	mixed . . .	8	1	nobody . . .	19	4
ma . . .	58	1	model . . .	13	0	noise . . .	15	3
machine . .	21	3	Mon . . .	25	0	none . . .	24	1
mad . . .	116	6	Monday . .	217	23	noon . . .	83	2
made . . .	430	12	money . . .	72	5	normal . . .	8	0
magazine .	13	6	month . . .	159	11	noth . . .	43	2
magazines	11	5	months . .	79	9	nose . . .	21	0
maid . . .	14	0	more . . .	721	10	not . . .	1,046	11
mail . . .	90	3	morning	445	29	note . . .	20	1
mailed . .	10	0	mornings	8	1	notebook . .	12	8
main . . .	12	1	most . . .	186	5	nothing . .	237	50
make . . .	285	10	mostly . . .	15	0	Nov . . .	69	8
makes . . .	54	2	mother . . .	876	16	November .	2,110	85
making . .	215	13	mothers . .	11	2	new . . .	30	32
mama . . .	110	6	mother's . .	54	20	nowadays . .	45	5
mamma . .	321	21	mountain	14	3	number . . .	11	2
mamma's .	15	4	mountains	20	3	numbers . .	20	1
man . . .	127	1	mouth . . .	27	3	nurse . . .	37	0
many . . .	622	13	move . . .	91	1	oats . . .	17	0
map . . .	31	0	moved . . .	121	4	ocean . . .	23	2
maps . . .	13	0	movie . . .	11	1	o'clock . . .	178	63
Mar . . .	156	38	movies . . .	16	0	Oct . . .	333	74
marble . .	8	0	moving . .	20	4	October . .	93	5
marbles . .	66	7	Mr . . .	175	51	of . . .	5,544	21
March . . .	319	11	Mrs . . .	312	98	off . . .	272	36
mark . . .	12	0	much . . .	945	21	office . . .	13	0
marks . . .	34	0	mud . . .	29	1	oh . . .	178	1
married . .	43	6	muddy . . .	30	4	oil . . .	13	0
master . . .	9	0	mules . . .	8	2	O K . . .	18	0
match . . .	14	0	mumps . . .	20	1	old . . .	841	5
matter . . .	27	2	muscum	28	2	older . . .	9	2
May . . .	210	11	music . . .	209	3	oldest . . .	16	0
may . . .	80	0	must . . .	500	11	on . . .	2,062	16
maybe . .	157	35	my . . .	3,874	23	once . . .	141	5
me . . .	2,534	11	myself . . .	87	22	one . . .	1,851	21
mean . . .	91	8	name . . .	1,100	45	ones . . .	108	14
means . . .	38	2	named . . .	86	6	only . . .	440	11
meant . . .	9	4	names . . .	131	15	open . . .	35	0
measles . .	41	13	natural . .	8	1	opened . . .	22	2
meat . . .	11	1	nature . . .	8	0	operated . .	15	3
medicine . .	8	2	near . . .	91	1	operation . .	15	2
meet . . .	47	2	nearly . . .	91	2	operetta . .	26	13
meeting . .	52	5	neal . . .	10	1	or . . .	843	17
melted . .	24	1	neck . . .	30	2	orange . . .	24	1
melting . .	14	2	necktie . .	9	3	orchestra . .	17	5
men . . .	60	1	need . . .	53	4	order . . .	42	5
mentioned .	8	1	neighbor . .	30	5	ordered . .	10	3
werry . . .	58	2	neighborhood	14	6	ore . . .	8	0
merry-go-round	18	9	neighbors . .	11	9	organ . . .	14	1
met . . .	12	0	neither . . .	11	5	other . . .	609	20
middle . . .	23	3	nephew . .	9	1	otherwise . .	54	3
might . . .	143	10	nest . . .	8	0	ought . . .	38	7
mile . . .	70	2	never . . .	255	5	our . . .	2,281	135
miles . . .	130	5	new . . .	711	21			
milk . . .	102	4	news . . .	275	11			
milking . .	19	0	new year . .	63	4			
million . .	9	2	new year's	19	11			

TABLE I—Continued

Word	Frequency of Use	Frequency of Error	Word	Frequency of Use	Frequency of Error	Word	Frequency of Use	Frequency of Error
ours	65	5	pickles	8	2	preacher	12	2
ourselves	8	2	picnic	88	6	present	83	18
out	1,649	21	picture	267	14	resents	93	9
outdoors	12	11	pictures	144	15	resident	26	4
outside	72	29	pie	18	0	retilest	9	2
over	950	12	piece	77	20	pretty	552	54
overalls	18	10	pieces	46	21	price	8	0
overshoes	8	2	pig	26	1	primary	11	1
owe	11	2	pigeons	9	4	principal	14	1
own	40	2	pigs	45	1	prize	69	19
pa	24	2	pile	9	0	prizes	10	0
package	18	2	pillow	11	0	probably	45	20
pad	9	0	pin	30	0	problems	22	3
page	47	2	pink	36	0	products	13	8
pages	15	0	pins	14	0	professor	246	15
paid	10	2	place	323	10	program	11	1
pail	16	1	places	37	0	programs	11	1
paint	20	1	plain	8	2	promised	11	1
painted	32	1	plan	14	0	P.S.	455	22
painting	19	2	plane	12	0	public	31	1
paints	10	1	planned	9	5	puff	13	0
pair	291	8	planning	34	10	pull	20	1
pairs	32	2	plant	24	1	pulled	27	2
paymas	38	4	planted	13	1	pumpkin	14	1
pal	61	4	planting	8	0	pup	14	1
palace	15	2	plants	13	0	pupil	40	5
pants	20	4	play	795	4	pupils	120	12
papa	109	2	played	159	4	puppy	15	2
paper	222	10	playhouse	16	0	pupa	9	0
papers	14	0	playing	191	8	purple	11	0
parade	18	4	playmate	10	0	purse	12	0
parents	20	4	playmates	8	1	pushed	9	1
park	73	1	plays	45	5	put	302	1
parks	14	0	pleasant	12	1	puta	11	1
parlor	10	3	please	515	18	putting	27	4
part	74	0	pleased	22	0	puzzle	14	1
parties	19	6	plenty	25	0	quarter	20	2
parts	21	1	plow	15	0	queen	9	1
party	285	10	plowing	9	0	question	17	3
pass	133	4	plums	9	0	questions	60	3
passed	88	22	P.M.	24	1	quick	28	3
passing	12	0	pneumonia	17	0	quicker	8	0
past	36	1	pocket	9	0	quiet	13	3
paste	12	1	pocketbook	38	18	quilt	20	0
pasted	8	1	poem	44	6	quit	108	28
pasture	13	0	poems	11	1	quite	387	62
pay	22	0	point	14	1	rabbit	43	4
peanut	9	0	police	11	0	rabbies	64	8
peanuts	21	1	police dog	11	2	race	18	0
pen	60	1	pond	22	0	paces	15	0
pencil	90	12	ponies	10	3	racing	8	0
pencils	22	3	pony	74	12	radio	134	9
penmanship	34	9	poel	22	1	railroad	16	1
penny	9	0	poor	51	1	rein	111	1
people	150	6	pop corn	19	11	raincoat	8	4
perfume	69	10	population	20	2	ramed	86	7
perhaps	11	1	porch	18	1	raining	60	4
period	11	1	possible	28	6	rains	13	2
person	25	0	post card	8	1	rainy	34	3
pet	27	0	poster	18	1	raise	33	0
pets	24	1	posters	22	1	raised	14	0
pheasant	10	3	post-office	14	4	rally	20	2
pheasants	11	5	potato	10	5	ran	66	1
phone	8	0	potatoes	22	5	ranch	8	1
phonograph	13	11	pounds	17	2	rather	47	4
physical	8	3	powder	40	6	read	303	2
piano	73	9	pr	15	1	reader	8	0
pick	29	2	practice	73	15	reading	244	3
picked	29	1	practiced	8	2	reads	8	2
picking	50	2	practicing	31	10	ready	108	4

TABLE I—Continued

Word	Fre- quency of Use	Fre- quency of Error	Word	Fre- quency of Use	Fre- quency of Error	Word	Fre- quency of Use	Fre- quency of Error
real	152	6	Saturday	370	75	shining	13	5
really	41	15	Saturdays	13	2	skirt	13	0
reason	19	2	save	18	0	shoe	15	0
feed	34	22	saved	10	1	shoes	14	3
receive	62	32	saving	11	1	shoot	19	0
received	624	309	saw	238	6	shop	19	0
recess	81	16	saw	657	8	shopping	8	1
red	139	2	saying	9	0	short	60	2
regards	46	7	says	101	8	shot	29	1
regular	14	1	scarce	53	14	should	154	7
remain	27	2	scarce	8	2	shoulder	11	0
remember	128	32	scared	27	5	show	114	2
report	119	5	scarf	22	5	showed	113	2
reports	14	1	scarlet fever	23	1	shower	10	1
respectfully	8	2	scholars	11	2	shows	29	2
rest	208	5	school	4,427	56	shut	8	1
return	11	1	schoolhouse	116	67	sick	321	4
review	12	1	schoolmate	37	17	sickness	16	2
rich	9	0	schoolmates	13	7	side	152	4
riddle	8	0	schoolroom	12	6	sides	39	2
ride	134	3	schools	86	1	sign	29	1
rides	10	2	science	12	2	signing	10	0
riding	66	6	score	16	0	silk	83	2
rifle	11	1	scout	10	1	silly	12	2
right	310	49	scouts	25	0	silver	11	1
ring	90	0	scratching	8	0	since	234	20
rings	14	0	scribbling	32	7	sincerely	12	30
rink	20	2	season	26	5	sing	90	0
river	65	2	seat	17	1	singing	38	2
road	64	2	seats	11	1	sir	9	0
roads	47	3	Sec.	11	1	six	23	0
roast	14	0	second	121	8	sister	353	1
rock	15	0	secretary	16	2	sisters	93	8
rod	11	0	section	8	0	sister's	35	11
rode	40	6	see	842	3	sit	43	0
roll	27	1	seeds	8	0	sits	9	2
roller	24	4	seeing	17	2	sitting	31	1
roller skate	8	3	seem	42	1	six	174	1
roller skates	19	0	seemed	15	0	sixteen	23	3
roof	11	0	seems	73	3	sixth	269	7
room	404	4	seen	154	0	size	17	0
rooms	19	2	self	9	2	skate	38	5
rooster	12	1	sell	42	0	skates	39	2
rope	25	2	selling	21	1	skating	118	19
rose	13	1	gamester	11	5	skiing	13	3
round	19	2	send	456	13	skirt	17	0
route	29	0	sending	105	3	skis	10	6
row	20	0	sends	8	0	skunk	9	1
rubber	31	0	senior	8	1	sled	55	5
rug	9	0	sent	301	4	sleds	12	2
run	85	0	separate	10	3	sleep	44	1
running	49	10	Sept	81	25	sleeping	17	0
runs	23	1	September	36	6	sleeps	9	3
rural	11	2	serve	11	1	sleepy	19	5
sack	12	1	sets	151	2	sleigh	23	5
sad	11	0	setting	17	1	slept	14	1
saddle	10	3	settling	49	2	slide	27	0
safes	15	3	settled	19	1	sliding	67	8
safely	9	2	seven	83	0	slip	10	0
said	779	15	seventeen	9	1	slippers	44	2
salad	16	0	seventy	61	4	slow	20	0
sale	30	0	several	36	5	small	74	8
salt	10	0	sew	24	0	smallpox	14	1
same	435	13	show	75	3	smart	12	1
sand	24	3	shall	27	1	snapshot	10	3
sandwiches	15	1	she	2,132	6	snow	375	6
sang	22	1	shed	15	0	snowed	60	0
Santa Claus	70	20	sheep	27	0	snowing	60	4
sat	14	0	sheet	14	0	so	3,109	9
Sat	83	10	she's	51	16	soap	9	0

TABLE I—Continued

Word	Fre- quency of Use	Fre- quency of Error	Word	Fre- quency of Use	Fre- quency of Error	Word	Fre- quency of Use	Fre- quency of Error
social . . .	28	8	stopped .	25	7	teachers	130	7
socks . . .	25	3	store . . .	76	0	teacher's	431	292
sold . . .	46	2	stores . .	42	2	teaches	34	4
so long . .	17	1	stories . .	43	4	teaching	39	1
some . . .	1,321	40	storm . . .	31	2	team . . .	62	2
somebody .	32	0	story . . .	56	2	teeth . . .	26	2
someone . .	23	4	stove . . .	18	0	telephone .	29	5
somersaults	9	0	straight . .	24	7	tell . . .	1,152	15
something .	177	39	straw . . .	14	1	telling . . .	52	1
sometime . .	153	69	street . . .	62	1	tells . . .	70	1
sometimes .	120	46	streets . .	12	0	ten . . .	209	3
song . . .	67	2	siring . . .	15	1	tennis . . .	14	3
songs . . .	30	2	strong . . .	12	1	tent . . .	10	0
sonny . . .	8	3	stuck . . .	30	1	term . . .	18	1
soon . . .	1,496	37	studied . .	15	6	terminal . .	10	0
sooner . . .	93	3	studies . .	61	19	terrible . .	48	6
sore . . .	39	2	study . . .	102	3	test . . .	82	0
sorry . . .	199	8	studying . .	89	34	tests . . .	49	2
sort . . .	16	0	stuff . . .	20	2	than . . .	214	24
sound . . .	13	0	subject . .	29	0	thank . . .	172	4
sounds . . .	11	1	subjects . .	45	4	thanking . .	9	1
south . . .	48	1	such . . .	82	4	thanks . . .	109	1
southern . .	8	1	sugar . . .	10	0	thanksgiving	140	48
spare . . .	13	1	suit . . .	23	0	Thanksgiving		
speak . . .	27	1	suits . . .	12	0	Day . . .	8	3
speaking . .	9	2	summer . .	380	27	that . . .	2,547	11
special . . .	10	0	sun . . .	36	0	that's . . .	233	96
spell . . .	54	3	Sun . . .	28	1	the . . .	13,609	18
spelled . . .	13	2	Sunday . .	463	61	theater . . .	250	3
spelling . .	203	2	Sundays . .	15	5	their . . .	1,127	94
spend . . .	27	3	Sunday school	93	23	them . . .	733	40
spent . . .	18	0	superintendent	9	6	then . . .	2,027	27
sport . . .	10	0	supper . . .	143	4	there . . .	46	102
sprained . .	16	1	suppose . .	566	111	there's . . .	126	28
spring . . .	107	12	supposed . .	52	17	these . . .	1,583	6
springs . . .	13	0	sure . . .	1,909	69	they . . .	51	37
square . . .	10	0	surely . . .	134	33	they're . .	111	45
St. . . .	34	4	surprise . .	24	3	things . . .	359	3
stairs . . .	10	0	surprised . .	61	16	think . . .	1,143	9
stamp . . .	9	2	sweater . .	49	2	thinking . .	27	40
stamps . . .	27	4	sweet . . .	17	0	thinks . . .	30	0
stand . . .	45	2	sweatheart .	66	2	thirteen . .	92	2
standing . .	18	1	swell . . .	35	2	thirty . . .	20	1
stands . . .	13	1	swim . . .	105	31	this . . .	32	0
star . . .	22	0	swimming . .	26	1	this . . .	2,442	22
stars . . .	11	0	swing . . .	20	3	tho . . .	10	0
start . . .	108	5	swings . . .	61	0	those . . .	117	14
started . . .	248	6	table . . .	9	1	though . . .	103	11
starting . .	30	3	tables . . .	15	1	thought . . .	497	47
starts . . .	46	2	tag . . .	10	1	thousand . .	27	6
state . . .	48	0	tail . . .	17	1	three . . .	474	1
states . . .	32	1	take . . .	404	7	threw . . .	10	3
station . . .	44	2	taken . . .	73	2	throat . . .	20	2
stationery . .	107	74	takes . . .	41	2	through . . .	220	47
statue . . .	8	1	talk . . .	122	6	throw . . .	10	0
stay . . .	300	3	talked . . .	58	2	Thurs . . .	38	21
stayed . . .	178	12	talking . . .	11	0	Thursday . .	176	28
staying . . .	58	2	talks . . .	49	4	ticket . . .	9	1
stays . . .	10	4	tall . . .	18	3	tie . . .	17	0
step . . .	8	0	tall . . .	56	0	tied . . .	10	3
stick . . .	21	1	tam . . .	17	2	till . . .	160	9
stiff . . .	9	2	tame . . .	9	0	time . . .	1,755	31
still . . .	285	5	tank . . .	20	0	times . . .	139	3
stocking . .	10	2	tank . . .	14	0	tire . . .	13	1
stockings . .	88	6	tar . . .	9	1	tired . . .	77	5
stockyards . .	13	0	taught . . .	18	2	utter-totter	14	12
stomach . . .	14	4	tea . . .	12	0	to . . .	14,010	67
stone . . .	11	0	teach . . .	46	2	today . . .	1,033	162
stood . . .	12	1	teacher . . .	889	38	together . .	98	32
stop . . .	116	1						

TABLE I—Continued

Word	Fre- quency of Use	Fre- quency of Error	Word	Fre- quency of Use	Fre- quency of Error	Word	Fre- quency of Use	Fre- quency of Error
toilet	8	0	used	74	4	wee	34	1
told	286	4	using	31	0	we've	41	5
tomorrow	237	48	usual	13	7	what	1,340	12
tonight	334	86	usually	15	0	whatever	13	0
tonsils	12	1	vacation	231	19	what's	18	11
too	1,289	550	vaccinated	14	0	wheat	33	1
took	219	3	valentine	193	18	wheel	11	1
tooth	16	1	Valentine Day	19	13	wheels	9	1
top	50	1	valentines	187	34	when	1,643	20
tore	10	0	valentine's	14	10	whenever	13	5
touch	8	3	valley	14	0	where	228	16
tough	8	1	verse	12	0	whether	45	15
tournament	23	11	very	1,515	44	which	224	14
towel	10	2	view	9	1	while	261	5
tower	16	1	violin	19	4	white	150	4
town	365	11	visit	106	13	who	227	14
toy	14	0	visited	21	0	whole	87	3
toys	16	1	visiting	13	0	whooping cough	14	5
track	31	10	volley ball	9	3	whose	176	2
tracks	8	0	wagon	30	5	why	9	7
tractor	31	7	wait	78	0	widow	176	0
train	55	2	waited	11	0	wiener	9	8
training	12	1	waiting	77	13	wife	19	2
trap	13	1	walk	130	0	will	23	0
tree	59	0	walked	29	0	will	3,636	53
trees	69	5	walking	31	0	wins	47	0
troifle	10	0	walks	10	1	wind	38	1
tried	44	5	wall	15	0	windmill	8	4
tries	12	5	walls	10	1	window	37	2
trimmed	10	4	want	430	30	windows	24	1
trip	49	0	wanted	138	9	windy	26	2
trouble	23	2	wanting	11	0	wins	0	0
truck	31	2	wants	98	7	winter	125	0
true	17	0	war	12	0	wish	558	14
truly	315	36	warm	120	9	wished	40	0
trunk	0	1	warmer	10	1	wishes	36	0
try	110	1	was	3,608	33	wishing	21	1
trying	58	2	wash	43	1	with	2,096	19
tub	8	1	washed	27	1	without	65	13
Tues	20	10	washing	21	0	wk	8	0
Tuesday	129	14	wasn't	112	21	wolf	11	0
tunnel	19	1	watch	76	2	wolves	8	0
turkey	30	2	watching	10	2	woman	8	0
turkeys	19	2	water	151	2	won	88	4
turn	71	6	way	194	1	wonder	28	3
turned	20	1	ways	21	1	wondered	11	1
twelve	85	6	we	9,258	51	wonderful	21	3
twenty	28	0	wear	68	7	wondering	15	2
twenty-five	12	3	wearing	21	5	won't	221	76
twenty-one	10	6	wears	9	0	wood	21	1
twice	28	1	wensels	9	2	woods	22	0
twin	16	0	weather	377	36	wool	8	0
twins	45	2	Wed	42	8	word	32	2
two	961	89	wedding	12	2	words	62	2
type	8	4	Wednesday	123	25	wore	13	0
typewriter	13	4	week	632	14	work	354	7
uncle	244	11	week-end	8	6	worked	13	0
uncles	9	4	weeks	289	7	working	115	0
uncle's	10	4	weigh	78	4	works	23	1
under	40	0	weighed	18	3	world	39	1
understand	23	3	weights	10	3	worry	15	0
union	13	1	welcome	39	0	worse	18	1
unknown	14	2	well	2,093	55	worst	9	2
unless	11	1	we'll	33	7	worth	10	0
until	136	32	went	1,286	20	would	1,202	30
up	1,365	6	were	1,113	27	wouldn't	80	13
upstairs	38	15	we're	88	51	wrist	34	4
uptown	20	11	weron't	22	5	write	3,108	181
us	854	21	west	52	0	writer	15	1
use	69	1	western	18	1	writes	19	3

TABLE I—*Continued*

Word	Fre- quency of Use	Fre- quency of Error	Word	Fre- quency of Use	Fre- quency of Error	Word	Fre- quency of Use	Fre- quency of Error
writing.....	825	108	yes.	112	0	yours	518	35
written.....	148	20	yesterday... .	435	21	yourself... .	48	12
wrong.....	35	4	yet	601	7	you've	9	3
wrote	426	19	you	12,810	312	yr.	9	0
Xmas	143	9	you'd	10	0	ysa.	26	7
yard	37	0	you'll	51	3	zero... . . .	14	0
year	721	4	young... . .	32	2	&	959	0
years	505	13	your	4,671	144			
yellow.. . .	23	0	you're	48	32			

LEGAL PROBLEMS OF STATE NORMAL SCHOOLS AND TEACHERS' COLLEGES¹

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Litigation involving normal schools has reached the courts of last resort in several states. Some of the cases thus decided throw light on the history of education. Some of them also show apparently incredible ignorance of the elementary principles of law on the part of the school authorities and point to the need of a systematic study of school law as one of the important elements in the preparation of teachers and administrative officers of schools. The decisions discussed in this article fall under two main headings: (1) those concerned with the location, corporate status, and suability of the institution and (2) those dealing with personnel relationships, involving the status and the rights of teachers and students.

LOCATION OF THE INSTITUTION

An act of the Illinois legislature of 1869 authorized cities and towns in southern Illinois to issue bonds in aid of the Southern Illinois Normal University. The location of that institution, by the charter, was dependent on the aid and the inducements which might be offered by the different localities. The city of Carbondale voted a \$100,000 bond issue in aid of the institution in order to secure its establishment in that city. Later the authorities of the city sought to enjoin the collection of taxes levied to pay interest on the bonds, alleging that the whole procedure was unconstitutional. The Illinois constitution of 1848 limited the municipal power of taxation to "corporate purposes" only. The same limitation was continued in the constitution of 1870. The municipal authorities strongly urged that the expenditure of funds in aid of a state institution could not be a

¹The preparation of this article was made possible by a special grant from the Carnegie Corporation of New York, through the Carnegie Foundation for the Advancement of Teaching, to Purdue University.

"corporate purpose" of a municipality. The Illinois Supreme Court, with three justices dissenting, held that the acts were not unconstitutional and then proceeded to reprimand the Carbondale city authorities, saying:

The disreputable feature of the case is that the same authority doing all of these acts, and whose city has received the benefit of them, now seeks to repudiate them. There is no rule of law, equity, justice, or morals compelling this and we cannot sanction it.

The court also took occasion to issue some homely advice with regard to the policy of selling the location of state institutions to the highest bidder among rival cities. In the judgment of the court, such legislation as the act of 1869 was "not calculated to advance the credit and renown of the state" and was "unwise and impolitic, often resulting disastrously to the best interests of the state." Said the court:

It should be the paramount object in locating public institutions, to place them where the interests of the state demand them, and not to promote individual interests, however strongly fortified by money or representation. By the power of money, the very place least fitted may become the chosen spot, whilst those having every required advantage are overlooked. It gives occasion to bargaining and corruption. . . . It is humiliating to our state pride that resort should be had to such means.¹

LEGISLATIVE APPROPRIATIONS

Section 184 of the state constitution of Kentucky provides that no sum shall be raised for education other than for education in the common schools until the question of taxation is submitted to the voters. This law is followed by a proviso which seems to exempt the Agricultural College (now the University of Kentucky) and the normal school for negroes. Chapter 102 of the Acts of 1906 established a system of state normal schools for white students, created a board of regents to govern these institutions, and appropriated \$50,000 to the board. The validity of this appropriation was contested in the courts on the ground that it was in conflict with the section of the constitution just described. The Supreme Court of Kentucky decided that the normal schools are institutions for which the legislature may make appropriations without a vote of the peo-

¹ *Burr v. Carbondale*, 76 Ill. 455 (1875).

ple and therefore that the \$50,000 appropriation was not unconstitutional.¹

CORPORATE STATUS AND SUABILITY

In Iowa an act of 1849 divided the state into three normal-school districts, one of which was served by a normal school at Oskaloosa. Other normal schools were to be located at Andrew and Mt. Pleasant. Each institution was to have a board of trustees appointed by the trustees of the state university. From the university fund \$500 was annually appropriated to each institution "to be expended in paying teachers, purchasing books, maps, charts, globes, chemical and philosophical apparatus, and mathematical instruments," provided that the "friends of education" should furnish not less than \$500 for the purpose of erecting buildings. After the erection of the building at Oskaloosa, one of the builders carried to the Supreme Court an action to recover the price of work and materials furnished. The court held that the board of trustees was not a corporation and had no power to be sued in its own name. The board was a mere association, and the plaintiff's only remedy would be against its officers or members individually. With regard to the liability of these individuals the court made no decision. The court also intimated that the board was an agency of the state and that the plaintiff's proper appeal would be to the legislature rather than to the courts.²

A similar case occurred more than a half-century later in Kansas, when a contractor sued the State Board of Administration for a balance alleged to be due on his contract for the construction of a building at the State Normal School at Emporia. It was held that the action was not maintainable because the State Board of Administration was not a corporation and had no general power to be sued for a money judgment. The plaintiff's only recourse would be against the fund appropriated by the legislature for the building.³

Likewise, the Louisiana State Normal College at Natchitoches has twice been held not to be a corporation suable in its own name. When a workman was killed in a fall while painting a smokestack at the

¹ *Marsee v. Hager*, 125 Ky. 445, 101 S.W. 882 (1907).

² *Drake v. Oskaloosa Normal School*, 11 Iowa 54 (1860).

³ *Heman Construction Company v. Capper et al. as State Board of Administration*, 105 Kan. 291, 182 Pac. 386 (1919).

college and his widow sued the college under the Workmen's Compensation Act, the Supreme Court of Louisiana pointed out that, although the college had been created as a corporation by Act 73 of 1892, its corporate existence had been terminated by Article 12 of the Constitution of 1921 and Act 100 of 1922, placing it under the exclusive control of the State Board of Education. It was therefore not suable in its own name and a plea to that effect was a complete defense.¹

When the president of the same institution expelled a student and the student sued for a writ of mandamus to compel his reinstatement, the court indicated that mandamus does not lie against a mere agent and that the president is no more than an employee and agent of the State Board of Education. The student must exhaust his recourse before the proper school authorities before seeking a remedy in the courts.²

APPOINTMENT AND DISCHARGE OF TEACHERS

The appointment and discharge of teachers have furnished instances of litigation. Thirty years ago the Board of Trustees of the State Normal School at Cheney, Washington, re-employed two teachers for the ensuing academic year. When notified of this fact by the secretary, the teachers expressed pleasure. During the summer a new principal was employed. He had conferences with both teachers at his own request for the purpose of discussing the work of the ensuing year. To one, Miss MacKenzie, he suggested that she assume duties in the training department, presumably in addition to her work in the kindergarten department. She expressed doubt as to her ability to execute both assignments but made no refusal of any positive assignment, and the matter was left for her to "think over." To the other, Mrs. Turner, he outlined certain methods for adoption in the training department, of which she expressed neither approval nor disapproval. Later conceiving the idea that these teachers would not work harmoniously with him, the principal prevailed upon the board to pass resolutions abolishing the kindergarten de-

¹ *Harris v. Louisiana State Normal College*, 134 So. 308 (1931).

² *State ex rel. Dodd v. Tison*, 175 La. 235, 143 So. 59 (1932)

partment and dispensing with the services of both teachers. After having made reasonable efforts throughout the year to secure employment elsewhere without success, Miss MacKenzie acquired Mrs. Turner's right of action and sued the board for the full salary originally contracted for. She recovered the full amount because the board's action was an obvious case of breach of contract.¹

The State Normal School at Peru, Nebraska, furnishes a recent case of unlawful dismissal of a member of the faculty. The head of the department of English received a letter of discharge from the president of the Board of Education for Normal Schools shortly after the teacher had been regularly employed for the following year. It developed that the letter of dismissal was not the result of any vote of the board. Nevertheless, the position was filled by another appointment, whereupon the aggrieved department head brought an action in *quo warranto* to test the force of his dismissal and the right of his successor. The writ of *quo warranto* is ordinarily issued only to test the rights of a public officer. Since it is well known that teachers are employees under contract and not public officers in the technical sense, the board argued that the writ should not issue in this case. The Supreme Court of Nebraska brushed aside this argument and gave an eloquent description of the public responsibility of the teacher in the following words:

When a position based upon a provision of law carries with it continuing duties of public concern which involve some exercise of the sovereign power in their proper performance, the position may be said to be an office public in character. . . . The teacher has a special place, by the nature of things in the governmental system, so far as it provides for education. He is appointed and paid by the state. His place—we may well say his office—is created by the state, because only through him can its free education be transmitted. Nor is he a mere conduit. Quite the contrary. For education cannot be poured out to people like water from a pitcher. It must be carried to them in such a way as to engage their interest and reach their understanding—a labor involving knowledge of method, exercise of authority, and wide use of discretion. A teacher must prescribe courses, establish discipline, convince, lead. In the due performance of his duty he not only engages in a work of public concern, but wields a portion of sovereign power.²

¹ *MacKenzie v. State*, 32 Wash. 657, 73 Pac. 889 (1903).

² *Eason v. Majors*, 111 Neb. 288, 196 N.W. 133, 30 A.L.R. 1419 (1923).

An earlier case¹ involved the dismissal of a professor by the Board of Regents of the Milwaukee Normal School. The Revised Statutes of Wisconsin (section 404, subdivision 3) gave the Board of Normal School Regents power to remove at pleasure any professor, teacher, or other employee of any of the normal schools. In April the board summarily removed a professor. Thereafter the professor sought to recover his salary for the remainder of the year covered by his contract. He lost his case on the familiar ground that the relevant statute was part of the contract and left him no cause of action. The plaintiff did not allege any abuse of discretion on the part of the board nor any malicious or improper motive. The board did not question the competency, ability, and moral character of the plaintiff but alleged that he had "become embroiled in a contention between the president and the professors and students" in such a way as to reduce his usefulness in the institution and cause the board to deem his removal advisable. The court remarked that removal in this "quiet way" was better for the teacher and for the school than would have been a trial before the board of regents involving the filing of charges and the proof thereof. It may be doubted whether there is any merit in surreptitiousness connected with the discharge of a professor before the expiration of his term of service.

RIGHTS OF STUDENTS

There have been numerous cases concerning the rights of students. These seem to fall into three groups revolving about the subjects of (1) discipline within the institution, (2) expulsion for infractions of discipline, and (3) expulsion for deficiency in scholarship.

Discipline.—The Southeast Missouri State Teachers College at Cape Girardeau furnished a case concerning discipline. The president evicted a summer-school student from the men's dormitory as a means of subduing prolonged and outrageous disorder in the building. The conduct of the residents of the dormitory was such that for several nights in succession persons residing in the vicinity of the campus were unable to sleep. As a last resort, the president of the college felt compelled to announce that he would evict from the dor-

¹ *Gillan v. Board of Regents of Milwaukee Normal School*, 88 Wis. 7, 58 N.W. 1042, 24 L.R.A. 336 (1894).

mitory any student who refused to sign within a specified time a pledge of good conduct. One student who refused to allow his name to appear on the pledge was accordingly evicted by an officer of the law but without violence. He was allowed to return and remove his personal possessions and was permitted to take the final examinations and receive credit for his academic work. Nevertheless, he sued the president for damages for the "unjustifiable humiliation" occasioned by the episode. The Supreme Court of Missouri, in denying recovery, remarked that a resident of a college dormitory has not the legal rights of a tenant nor even those of an ordinary lodger but that he impliedly agrees to conform to all reasonable rules of the institution and that he may be summarily evicted for a serious infraction thereof.¹

Expulsion for disciplinary reasons.—The law is well established that institutional authorities have power to make reasonable rules and regulations governing the conduct of students under their jurisdiction. The courts will not interfere with the enforcement of such rules except when there is evidence of malice, oppression, or bad faith on the part of the school authorities. However, expulsion of a student by arbitrary or capricious action is unlawful, and the remedy is a writ of mandamus to compel his reinstatement. An example occurred at the State Normal School at Peru, Nebraska, when a student who had previously been enrolled was refused readmission in the autumn of 1897. His application met all requirements, but the faculty refused it and wrote the following note to the student's father.

Your son ———, having applied for admission to the State Normal School, the faculty, after consideration of the interests of the school, deem it best to refuse the same. This action is taken without reference to his guilt or innocence in matters with which his name has been connected.

Since the records showed no reason for refusal to allow the student to continue in school, the Supreme Court of Nebraska held that his dismissal was arbitrary and capricious and ordered that he be readmitted by a writ of mandamus.²

An earlier case in Missouri is a landmark in establishing the limits of the disciplinary authority of school officers. The Missouri Re-

¹ *Englehart v. Serena*, 318 Mo. 263, 300 S. W. 268 (1927).

² *Jackson v. State ex rel. Majors*, 57 Neb. 183, 77 N. W. 662, 42 L. R. A. 792 (1898).

vised Statutes of 1879 (section 7166) permitted the faculty of a state normal school to suspend or expel students for "contumacy, insubordination, or immoral conduct" provided they should have "the same right of appeal to the board of regents, as is provided in the case of a professor or teacher," the action of the board being final. A rule of the board of State Normal School District No. 2 prohibited students from attending "parties, entertainments, or places of public amusement, except by permission." Under this rule a sixteen-year-old girl student, who lived with her parents near the school, was expelled because she had, with her father's consent, attended a party in the evening after she had returned home. The student immediately sued for a writ of mandamus to compel her reinstatement, without appealing to the board of regents for a hearing. The Court of Appeals held that the writ should issue on the ground that the rule reached beyond the proper powers of the board and that consequently an appeal to the board would not be a sufficient legal remedy. Thus, the student was heard in court without having previously demanded a hearing from the regents. Counsel for the school argued that the rule was reasonable in the case of a state institution designed to receive students from a distance and necessarily taking them from under parental control, though admittedly unreasonable in the case of a public school where all pupils reside with their parents. He insisted that there could be no separate code of rules for students of the state institution who happened to reside with their parents. He said:

Not only would it increase and greatly complicate the difficulties of controlling non-residents, by according superior rights and privileges to those who happen to be residents of the community, but it would also place in the hands of the latter unlimited facilities for injuring the school without providing a means of redress. For a state institution to admit such a principle, would be to warm within its own bosom a viper which would ultimately sting it to death.

Nevertheless, the court held that the school authorities cannot assume to govern the conduct of students who are under the parental eye and that the teacher stands *in loco parentis* only within the sphere of his duty as a teacher. Parents living at a distance may either place their children under the control of other persons or leave them free to control themselves, and the choice is for the discretion

of the parent. In private boarding schools the situation is different because the school stipulates the terms upon which it will accept pupils.¹

In a much more recent case an eighteen-year-old girl student was expelled from the Michigan State Normal College at Ypsilanti, Michigan. The grounds for her expulsion were that she smoked cigarettes on the public streets, that, seated on the lap of a young man, she rode through the streets in an automobile, and that she proclaimed her defiance of the discipline of the school in the local public press. After the dean of women had informed the student that her conduct would not be tolerated and had received no explanation nor any indication that the advice would be heeded, the student's application for readmission at the beginning of the ensuing term of school was denied. The student carried her case through the courts, one of her contentions being that she had been expelled without having had a proper hearing. The Supreme Court of Michigan held that the action of the dean of women in summoning her to a conference and fully apprising her of the situation constituted a sufficient hearing. The court further declared that the fact that the professors and the students at the state university were permitted to smoke was no argument against the reasonableness of the rule prohibiting smoking by students of the teachers' college. Then lapsing into ungrammatical enthusiasm in laudation of the action of the dean of women, the court said: "Instead of condemning Mrs. Priddy, she should be commended for upholding some old-fashioned ideals of American womanhood."²

Exclusion for deficiency in scholarship.—Although the power of school authorities to expel students for serious infraction of discipline is unquestioned, the right of the faculty to deny readmission to students on account of low scholastic standing has often been questioned. A student of the Cleveland Normal School, Cleveland, Ohio, which was a part of the public-school system of the city, was requested to withdraw at the end of the first semester on account of her low scholarship and alleged inadaptability for teaching. The Court of Common Pleas granted her an injunction restraining interference

¹ *State ex rel. Clark v. Osborne*, 24 Mo. App. 309 (1887)

² *Tanton v. McKenney*, 226 Mich. 245, 197 N.W. 510, 33 A. L. R. 1175 (1924).

with her right to attend the school. The decision was on the ground that the school was a part of the regular public-school system and that the dismissal did not conform to section 4014 of the Revised Statutes of Ohio, which specified the procedure to be followed in expulsion cases. The court indulged in a dictum which is of some interest:

There is no right more sacred than the right to admission to the public schools of the state. Education is the bulwark of popular government. It is the Ark of the Covenant of our political faith. It is the hope of the nation. The duty of teaching and developing the youth is vested in the school authorities, and their discretion will not be interfered with by courts unless plainly abused. But the right to be educated in the schools belongs to the people and is vested in the law over which no board of education has the discretion to interfere or not according to its notions as to the future conduct of the pupil receiving instruction in the schools. The law granting that right is superior to the board of education, and superior to the courts.¹

A somewhat similar case involved the State Normal School at San Jose, California. Thirty years ago California had five normal schools, each having a local board of trustees. There was also a joint board of trustees having power to prescribe uniform textbooks, courses of study, standards of graduation, and standards of admission for all the normal schools. When the faculty of the school at San Jose denied readmission to a student on the ground that he was mentally incompetent to become a teacher, the student sought reinstatement by a writ of mandamus. The writ was granted by the California Supreme Court despite the fact that a rule of the local board of trustees directed the faculty to "drop any student who, by reason of poor scholarship, bad character, or evident unfitness for teaching, is disqualified to become a teacher." The student showed that he had not been allowed to complete the course in practice teaching, although other students were sometimes allowed to repeat it once or even twice. He had no record of failure in any examination. The faculty made no allegation of bad character or infraction of the disciplinary rules. It offered only its judgment that the student was mentally unqualified for teaching, unsupported by any evidence in the form of failure in any examination. The court held that under the circumstances the student was being deprived of a valu-

¹ *Brown v. Board of Education*, 6 O.N.P. 411, 8 O.S. & C.P. 378 (1899).

able right which belonged to him by statute, and his reinstatement was ordered.¹

The most recent case of this type is the Miami University case, in which a girl student was suspended from the School of Education at that institution because of repeated failure to reach the standard of scholarship required by the faculty. The Court of Common Pleas ordered her reinstatement, but this decision was reversed by the Court of Appeals. One of the principal grounds on which the opinion rests is the proposition that any institution of higher education has implied authority to establish and maintain standards of scholarship and to exclude students for failure to reach such standards. The case is differentiated from the Cleveland case because Miami University is an institution of collegiate rank having a long history as such, while the Cleveland Normal School was merely a unit in the Cleveland system of public schools and made no pretense of being an institution of collegiate rank. The court held that the statutes applicable to the elementary and secondary schools of the state obviously do not apply to Miami University.²

In this case it was argued on behalf of the student that a citizen and daughter of a taxpayer has a right to continue as a student in a state institution supported by public taxation as long as she violates no disciplinary rules. This argument means that there could be no expulsion or suspension of a student except for disciplinary reasons. It is an argument which can hardly be successfully maintained, but it leads to very interesting questions concerning the responsibility of the state to furnish suitable educational opportunities fitted to the needs of each of its citizens who is desirous of studying in an educational institution and who is willing to comply with all reasonable disciplinary rules.

¹ *Miller v. Dailey*, 136 Cal. 212, 68 Pac. 1029 (1902).

² *West v. Miami University*, 41 Ohio App. 367, 181 N.E. 144 (1932).

SELECTED REFERENCES ON PUBLIC-SCHOOL ADMINISTRATION. I¹

WILLIAM C. REAVIS AND NELSON B. HENRY
University of Chicago

The following references on public-school administration were published between November 1, 1932, and October 31, 1933. The references were selected on the basis of comprehensiveness of treatment, practical value of the contribution, current interest in the problems considered, and factual support of conclusions. The list is necessarily restricted by limitations of space.

The references are classified under eight phases of administration, namely, general administration, state school administration, city school administration, supervision, teaching staff, school finance, business management, and public relations. References under the first three classifications are included in this issue; references under the remaining five will be presented in the February number of this journal.

GENERAL ADMINISTRATION²

1. ALMACK, JOHN C. (Editor). *Modern School Administration*. Boston: Houghton Mifflin Co., 1933. Pp. x+382.

Contains twelve chapters dealing with problems and progress in educational administration by twelve different authors and a biography of Ellwood P. Cubberley whose services to public-school administration the volume is intended to commemorate.

- 2.³ CODY, FRANK. "Citizens' Conference Submits Policy To Safeguard Education," *Nation's Schools*, XI (February, 1933), 53-54.

Summary of recommendations of the Citizens' Conference on the Crisis in Education concerning means of protecting the program of public education from injurious curtailments

¹ This list is one of the second cycle of twenty lists covering all major aspects of the field of education which is being published co-operatively in the *Elementary School Journal* and the *School Review*. The first cycle ended with the December, 1933, issues.

² See also Item 15 in the list of selected references appearing in the January, 1934, number of the *School Review*.

3. *Constructive Economy in Education*. Research Bulletin of the National Education Association, Vol. XI, No. 3. Washington: Research Division of the National Education Association, 1933. Pp. 57-90.
A discussion of basic principles of economy in public-school administration. The discussion deals with the following economy factors: an efficient staff, the budget, the unit of administration, organization, supervision, the management of supplies, insurance, the protection of school funds, and teachers' salaries and the teacher load.
4. COOKE, DENNIS H. "What Do Teachers Want in a Retirement System?" *School Executives Magazine*, LII (November, 1932), 106-8.
Reports the findings of a questionnaire dealing with twelve issues in teacher retirement submitted to ten thousand teachers, principals, supervisors, and superintendents.
5. COOPER, WILLIAM JOHN. *Economy in Education*. School Economy Series. Stanford University, California; Stanford University Press, 1933. Pp. vi+82.
Indicates essential aspects of education which should not be lost sight of in school-budget economies and suggests possible ways of economizing without undue impairment of the school program.
6. DUDLEY, L. LELAND. *The School and the Community*. Harvard Studies in Education, Vol. XXII. Cambridge, Massachusetts: Harvard University Press, 1933. Pp. xiv+176.
A study of local control in the public schools of Massachusetts. Valuable as an interpretation and an explanation of the manner in which local public schools are administered and useful in identifying problems to which attention must be directed in the improvement of public schools.
7. *Educational Leadership*. Eleventh Yearbook of the Department of Superintendence of the National Education Association. Washington: Department of Superintendence of the National Education Association, 1933. Pp. 528.
Deals with the changes in the status of educational leadership in American public schools during the last decade, reviews the progress made toward the development of professional leadership in education, and considers the problems and possibilities of such leadership in the future.
8. EDWARDS, NEWTON. *The Courts and the Public Schools*. Social Science Studies Directed by the Social Science Research Committee of the University of Chicago, No. XXVIII. Chicago: University of Chicago Press, 1933. Pp. xvi+592.
A comprehensive treatment of the legal basis of public education in the form of a review and interpretation of court decisions pertaining to such important factors as the relations of the state to the school corporation, business problems of school boards, the teacher, and the pupil.

9. ENGELHARDT, FRED. "Boards of Education Have a Place," *Elementary School Journal*, XXXIV (September, 1933), 30-35.

A reply to the article of Charles H. Judd (Item 10 in this list) in which it is suggested that the board of education be abolished.

10. JUDD, CHARLES H. "The Place of the Board of Education," *Elementary School Journal*, XXXIII (March, 1933), 497-501.

A statement of the function of the board of education and a vigorous criticism of the policies of the Chicago school board. This article suggests that the board of education be abolished and that the management of the schools be left to the expert direction of the superintendent.

11. *Meeting the Emergency in Education*. Bulletin of the Department of Secondary-School Principals, No. 46. Berwyn, Illinois: Department of Secondary-School Principals of the National Education Association (H. V. Church, Executive Secretary), 1933. Pp. 32.

A report of the Joint Commission on the Emergency in Education, which includes data on the present financial situation in the public schools and explains the program of this commission.

12. NORTON, JOHN K. "Functional Philosophy of Education Is the Administrator's Compass," *Nation's Schools*, XII (October, 1933), 11-13.

A discussion of the importance of a clearly defined philosophy of education as a guiding principle in administrative procedure.

13. *The School Board Member*. Research Bulletin of the National Education Association, Vol. XI, No. 1. Washington: Research Division of the National Education Association, 1933. Pp. 1-42.

Describes the place of the school-board member in the national program of education and considers origin, development, and legal status of the school board.

STATE SCHOOL ADMINISTRATION

14. GROSSNICKLE, F. E. "Equalization of the Burden of Capital Outlay in a State's Minimum Educational Program," *Journal of Educational Research*, XXVI (February, 1933), 449-56.

A suggested plan for a state equalization program for capital outlay.

15. KENTUCKY STATE DEPARTMENT OF EDUCATION. *Report of the Kentucky Educational Commission*. Educational Bulletin, Vol. I, No. 8. Frankfort, Kentucky: State Department of Education, 1933. Pp. xxviii+324.

A general treatment of the objectives to be achieved by the state in providing public education and a discussion of suitable plans for realizing these objectives.

16. LAWLER, EUGENE STALLCUP. *A Technique for Computing the Amount of New Aid Required for State Equalization Programs*. Teachers College Con-

tributions to Education, No. 547. New York: Teachers College, Columbia University, 1932. Pp. viii+46.

A study of the factors involved in the determination of the amount of state aid required for various types of equalization programs. A chart is worked out for recording data with economy of time and effort.

17. MORT, PAUL R. "Why the School System Lacks Stability in Bad Times," *Nation's Schools*, XI (June, 1933), 21-24.

Indicates the value of a state equalization program with respect to local tax relief and stability of financial support of schools.

18. MORT, PAUL R., assisted by the RESEARCH STAFF OF THE NATIONAL SURVEY OF SCHOOL FINANCE. *State Support for Public Education*. Washington: American Council on Education, 1933. Pp. x+496.

An elaborate treatment of important phases of the problem of finance and support of public education in the United States.

19. PERRIN, H. AMBROSE. "The Administration of Equalization Funds in States Having Recent Administrative Legislation," *Elementary School Journal*, XXXIII (December, 1932), 286-92.

A summary of the methods of administering equalization aid used in eight states and a critical consideration of the effects of the different plans and of the methods of administering these plans.

20. REUSSER, W. C. "Sources of School Revenue," *School and Society*, XXXVII (May 27, 1933), 665-72.

A review of sources from which revenues for school purposes are derived and methods of distribution of state school funds.

21. SCHMIDT, ARTHUR W. *The Development of a State's Minimum Educational Program*. Teachers College Contributions to Education, No. 508. New York: Teachers College, Columbia University, 1932. Pp. vi+106.

This study is an effort to establish a procedure for determining the state's share in the support of the local school systems within its borders.

22. "School and City Current Expenses Compared, 1931" Educational Research Service, Circular No. 9. 1933. Washington: Department of Superintendence and Research Division of the National Education Association, 1933. Pp. 11.

Presents 1931 figures on expenses of 310 city governments and city school systems, the cost per capita of population, and the percentage that school expense is of total city expense with schools included.

23. STRAYER, GEORGE DRAYTON. "The Education of All Children," *Journal of the National Education Association*, XXII (January, 1933), 29-30.

A brief discussion of the need for equalization of educational opportunities and considerations underlying a state equalization policy.

24. WRIGHTSTONE, J. WAYNE. *Stimulation of Educational Undertakings*. Teachers College Contributions to Education, No. 562. New York: Teachers College, Columbia University, 1933. Pp. viii+76.
A study of school support in New York cities and villages under earmarked and non-earmarked state-subsidy plans.

CITY SCHOOL ADMINISTRATION¹

25. BUTSCH, RUSSELL L. C. "Salaries of Teachers in Cities: 1922-23 to 1932-33," *American School Board Journal*, LXXXVII (November, 1933), 20-22.
Reveals trends in salaries of teachers in elementary schools, junior high schools, and senior high schools for the period studied.
26. ELLIS, WALTER CROSBY. "Appraising a City's Educational Features," *Nation's Schools*, XI (March, 1933), 31-34.
Describes a convenient method of indicating the comparative rank of cities with respect to several factors which measure educational burden, salaries, per capita costs, etc.
27. *Salaries in City School Systems, 1932-33*. Research Bulletin of the National Education Association, Vol. XI, No. 2. Washington: Research Division of the National Education Association, 1933. Pp. 43-56.
A report of the findings of the regular biennial salary survey, which includes data for 1,910 cities and almost 400,000 school employees.
28. SPAIN, CHARLES L. "Keep 'Trills'—Save Money," *School Life*, XVIII (March, 1933), 122.
A brief statement of the economies realized by means of the platoon-school organization in Detroit.
29. VAN WESTRIENEN, HAROLD J. "How To Proceed When a New School Superintendent Is Needed," *Nation's Schools*, XI (May, 1933), 29-30.
Explains how one school board proceeds with the task of selecting a superintendent.
30. YEAGER, WILLIAM A. "How One State Employs and Pays Its School Superintendents," *Nation's Schools*, XII (August, 1933), 43-46.
An explanation of the provisions of the Pennsylvania school code pertaining to the classification and salaries of school superintendents.

¹ See also Item 292 in the list of selected references appearing in the September, 1933, number of the *Elementary School Journal*.

Educational Writings

REVIEWS AND BOOK NOTES

A significant study of certain causes of reading and other language defects.—The monograph under consideration¹ presents a summary of the literature of fact and theory together with various new experimental data and hypotheses concerning the relations of lateral dominance of the hands, eyes, and ears, and visual acuity and eye-muscle imbalance (suspenopsia and heterophoria) to difficulties in reading, writing, spelling, and speech. Into this highly controversial field Selzer has introduced some very significant data from tests performed on normal and problem cases and some rather startling theories concerning the cause and the cure of reading and other language defects. The monograph deserves careful reading by oculists, ophthalmologists, and physiologists as well as by psychologists and specialists in disabilities in reading, spelling, speaking, and writing.

Doubtless the most interesting and significant contribution in the monograph is Selzer's data and theories concerning the rôle of heterophoria (imbalance of muscles rotating the eyeballs), suspenopsia (momentary periods of "blindness" in one or both eyes), and alternating vision (alternating periods of vision in one eye at a time). Such a statement as the following is nothing short of startling to those persons who have attributed reading difficulties to a variety of causes: "These conditions of muscle imbalance and alternating vision, in addition to a lack of fusion, the writer believes account for such reading disabilities as are not accounted for by general mental disability" (p. 85). The author offers in support of this thesis three forms of evidence (1) his finding that "over 90 per cent" of the reading-disability cases examined by him had eye-muscle imbalance; (2) his finding that only 9 per cent of 100 unselected school children had eye-muscle imbalance and that 5 of these had difficulty in reading; and (3) his finding that at least two of these cases, who were fitted with prisms to correct the imbalance, showed decided improvement in their reading while wearing the prisms. If, as Selzer contends, over 50 per cent of the children suffering from eye-muscle imbalance have difficulty in reading and 90 per cent of all reading

¹ Charles A. Selzer, *Lateral Dominance and Visual Fusion: Their Application to Difficulties in Reading, Writing, Spelling, and Speech* Harvard Monographs in Education, No. 12. Cambridge, Massachusetts Harvard University Press, 1933 Pp. 120. \$1.00.

defects show muscular imbalance of the eyes, a causal factor has been uncovered worthy of the most careful and extensive study. The fact that oculists are rather obscure in their treatises on diagnosis and remedial treatment of heterophoria and almost unaware of suspensopia, as it is appraised by Selzer, makes the need of future research in this field all the more impressive. Selzer disputes, among other things, the wisdom of certain forms of treatment of muscular imbalance and especially deplores the hopeless prognosis for any treatment begun after the fifth year. He is convinced by his experiences that the difficulty can be remedied by a combination of lens treatment and muscular exercises at much later years.

Although the investigations of muscular imbalance are the most important of those reported in this monograph, other problems are considered. The first chapter gives a summary and discussion of nine different theories concerning the causes of handedness. The second chapter contains a discussion of twenty-four tests of handedness, five tests of ocular and three tests of auditory dominance. The third chapter summarizes previously assembled data concerning lateral dominance together with the results of tests applied by the author to approximately 645 school children. As regards handedness, Selzer reaches the same general conclusion as did Haefner (although no reference is made to the latter's study) that most pupils are right dominant in some acts and left dominant in others, in different degrees, and not similarly dominant in all tasks. He also agrees with Haefner that a change in writing from one hand to the other does not intrinsically produce speech and other defects. It is the method of effecting the change rather than the change itself which causes difficulty. Selzer points out, as have others, that the percentage of the population who show left-hand dominance varies with the test employed: a test of writing shows 1 or 2 per cent; strength of grip, about 29 per cent; and crossing of thumbs, about 50 per cent. In recommending a team of tests for determining handedness in general, Selzer utilizes quite different criteria from those employed by Haefner. Probably the choice of tests should be determined by the investigator's practical purpose rather than by any predetermined assumptions concerning the underlying significance of manual dominance.

Selzer's studies of the amount and interrelations of hand, eye, and ear dominance and the relations of these to difficulties in speech, reading, spelling, and writing provide considerable useful data and lead to certain interesting theories. Among the data one may glean such items as these: Thirty-six per cent of school children show left-eye dominance by Parson's Manoptoscope test. Visual-acuity tests do not indicate eye-dominance. Eye-dominance is not closely correlated with handedness. There is little or no difference between the intelligence of right-dominant and left-dominant children. Pupils with left-eye dominance show relatively greater speed in writing from right to left than do pupils with right-eye dominance. Mirror-writers tend to show left dominance or equal dominance of hands and eyes.

Selzer develops a general theory to explain the many specific facts and tendencies recorded in his study. Lack of visual fusion, he believes, is at the bottom

of most difficulties in reading and spelling, especially those which show reversals and mix-ups of elements. He believes that lack of visual dominance is also responsible for mirror-writing, stuttering, and other language difficulties. The lack of visual fusion, rather than any single type or pattern of lateral dominance, is the basal cause although its effects are conditioned by lateral dominance. In general, the theory is that muscular imbalance may cause images to fall on non-corresponding areas of the two cerebral hemispheres, thus causing conflict of engrams, or brain impressions, especially when neither hemisphere is clearly dominant—a fact indicated by lack of clear lateral dominance. This conflict of engrams is the basis of difficulties and confusions in reading, writing, speech, and spelling. In the case of suspensopsia or alternating vision, two independent sets of engrams are set up alternately on each cerebral hemisphere, a situation which, especially in the case of lack of clearly defined cerebral dominance, results in conflict, confusion, and difficulty.

Needless to say, this type of theory is far removed from the original facts of observation and test. The extremely speculative nature of the theories, even if they are difficult to square up with recent points of view concerning brain functions, reveals an alert imagination striving to unify diverse language difficulties into a simple working hypothesis. However valid or serviceable the hypothesis may be, Selzer's data are significant and suggestive of further research and thinking.

ARTHUR I. GATES

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Educational research.—Statements of the aims of textbooks often indicate, more clearly than do the tables of contents, the nature of the material that follows. The author of a textbook on educational research¹ states that the purposes of his volume are (1) "to reduce the discrepancy between research theory and educational practice by presenting the practical methods of conducting significant research and the knowledge necessary for the economical and effective interpretation of research"; (2) to define research in such a way as to permit "the study of vital educational problems usually excluded" (p. 7), (3) to suggest methods for selecting a research problem; (4) to present a method for outlining the plan of solution of a problem; (5) to survey research techniques and to classify and present them so as to encourage their use in research and in the criticism of research; (6) to introduce "the more general reader to a broad survey of the ways of thinking that have been used or may be used in the field of educational research" (p. 8).

There is much to admire in the book. Chapter ii, "The Research Problem and Its Background," which suggests methods for selecting a research problem, and chapter iii, "Outlining the Research Solution," should be read by all prospective

¹ Harold H. Abelson, *The Art of Educational Research: Its Problems and Procedures*. Yonkers-on-Hudson, New York: World Book Co., 1933. Pp. xii+332. \$2.00

research workers. Much of the discussion on the methods of research is valuable. The four chapters on research tools are adequate for most purposes and are clearly written. The study questions given at the end of each chapter are less objectionable than those ordinarily found in college textbooks on education. A classified bibliography of twelve pages appears to have been carefully selected. The references appearing at the ends of the chapters are of exceptional worth. Those at the close of chapter ii should be brought to the attention of all candidates for higher degrees in education. In all, the book has many excellent features.

There is, however, much in the book that will be challenged by research workers in education. For example, the author feels that a comprehensive treatment of research methods necessitates definitions of education and of research that are probably questioned by many educators. He attempts to prove by definition that education is an art and not a science. His argument is neither consistent nor convincing. Further attempts to improve the art of education are to be encouraged. It appears, however, that the best expression of an art is possible only when its working rules are exhibited in an ordered and related system. No one can deny that education has far to go in approximating perfection as a science, but it smacks of quibbling to write of a science in education while denying a science of education.

The author defines a research study as any study that bases "the solution of a problem upon *relatively* stronger grounds than those previously determined" (p. 16). Emphasis is placed on the word "relatively" because the author wants his definition to permit the study of educational problems usually excluded as research possibilities and to permit the inclusion of many research methods that are not considered such by many investigators. Some of these methods are to be inferred from the chapter titles that follow: "The Integrative Method," "The Descriptive Method," "Socio-Descriptive Methods," "Psycho-Descriptive Methods," "The Causal Method: Single-Group Comparative Experimentation," "Other Comparative Experimental Causal Methods," "Analytical Experimental Causal Methods," "Transfer Experimental Causal Methods," "Inferred-Control Causal Methods," "The Evaluative Method," and "The Constructive Method." The author's definition of a research study is particularly unfortunate in one respect. It lends support to the "researcher" seeking a bibliography. Educators have been accused (some of them justly) of collecting and collating in small puttering ways and palming off the results as research. Would it not be better to reserve the term "research" for studies which actually contribute to the understanding of fundamental principles? It should be embarrassing for educators to feel the necessity of describing certain research studies as *genuine* research.

In spite of questionable definitions and an over-classification of methods, the book is to be recommended as the most complete treatment of educational-research methods available. It should be on the desks of all graduate students

It should serve very well as a textbook for classes in methods of educational research. Teachers and others who occasionally write on educational matters will find it very helpful.

HERMAN G. RICHEY

Pressure groups and the curriculum.—In *A Charter for the Social Sciences in the Schools*, drafted by Charles A. Beard as the first volume of the report of the American Historical Association's Commission on the Social Studies, we are told that in planning the social-studies curriculum we must take into account the requirements of scholarship, the climate of American ideas, and the requirements of the teaching and learning process. Statutory limitations tend also to shape the school program. Just as significant, says Beard on page 83 of his book, are the "demands made on the schools by powerful associations of private citizens—economic, religious, patriotic, racial, sectional, military, cultural, and moral." We are told by Beard that "whatever teachers may decide to teach, in all possible fairness and impartiality, will be subjected in application to strong impacts from particular interests."

Professor Pierce's book,¹ the third volume of the same report, deals with the influence of the various "pressure groups" that have as their objectives the molding of public opinion and, directly or indirectly, the shaping of the school curriculum. Having made a series of studies of this and related problems prior to her association with this commission, Miss Pierce is well qualified to direct and report on this phase of the investigation. She has been assisted by the commission's special Committee on Public Relations.

As the author suggests in the Foreword, one phenomenon of American life appears to be a persistent faith in the common school as a potent force in the development of character and public opinion and, because of that faith, a tendency for laymen to organize into groups for the purpose of guarding and even dictating the ideals to be taught in the school. Fundamentally, this tendency is wholesome and, in a democracy, necessary. To quote Miss Pierce, when the programs of such groups "are parallel to the plans of those whose primary function is teaching, no one would gainsay their desirability. It is only when such programs run counter to the best educational theory and practice that questions as to their soundness may be raised" (p. x).

The author is to be commended for the painstaking care with which she has investigated more than two hundred organizations. She has had the co-operation of the groups involved and has set forth the results of her study impartially and objectively. The report has eight parts, dealing with the educational and civic policies of patriotic, military, peace, fraternal, religious and racial, youth, business and labor, prohibition and anti-prohibition groups and organizations

¹ Bessie Louise Pierce, *Citizens' Organizations and the Civic Training of Youth*, Report of the Commission on the Social Studies of the American Historical Association, Part III. New York: Charles Scribner's Sons, 1933. Pp. xviii+428. \$2.00

Typical programs of each group are analyzed. Chapter vi, for example, gives a brief history of the organization, objectives, and work of the National Council for Prevention of War. Formed in 1921 to promote the aims of the Washington Conference on the Limitation of Armaments, the council included representatives first from seventeen and later from thirty-four other groups. Its program stands for "progressive world organization, world-wide reductions of armaments by international agreement, world-wide education for peace" (p. 73). Propaganda literature for both children and adults is published, including a monthly *News Bulletin*, surveys, pamphlets, and bibliographies. Posters and pictures are also distributed. The council sponsors a "World Hero Prize Competition," in one of which a thousand schools and a half-million pupils took part. The council's educational department has investigated the peace and war content of school textbooks. In similar manner are surveyed the activities of such groups as the various societies of the American Revolution, the American Legion, the Freemasons, the Knights of Columbus, Boy Scouts, Girl Scouts, Young Men's Christian Association, Young Women's Christian Association, the Young People's Socialist League, the public utilities, and prohibition and anti-prohibition groups—to cite only a few. For practical purposes the investigation is limited to the post-war period.

Part IX is devoted to the appendixes, bibliography, and index. Thirty-one pages of documents and fifty-six pages of bibliographical material form a valuable part of the report.

Curriculum-makers, administrators, and teachers in general should welcome this volume of the commission's report. In the social studies, which deal largely with questions of interpretation and with the cultivation of ideals and desirable attitudes in citizens-to-be, the teacher must know the difference between legitimate indoctrination and that type of propaganda which runs counter to American ideals and values, between ideals that may be rightly termed American and those which represent minority opinion and are at best controversial. Those who are looking for facts to guide them in facing this problem will find help in Professor Pierce's volume.

BURR W. PHILLIPS

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Principles and practices in public-school budget-making.—The little volume under review¹ is the most complete and recent discussion of public-school budget-making that is known to the reviewer. The major topics treated are (1) the function of the school budget, (2) the period of its preparation and the processes involved, (3) the presentation of the budget to the board of education and adoption by that body, (4) administration of the budget, and (5) appraisal of the budget and of budgetary practices.

¹ Chris A. De Young, *Budgetary Practices in Public School Administration*. Northwestern University Contributions to Education, School of Education Series, No. 8. Evanston, Illinois: School of Education, Northwestern University, 1932. Pp. viii+152

The attack on each of the topics follows the usual but helpful line of comparing practice with theory. A liberal and well-chosen list of authorities has been consulted, and their recommendations are summarized. These recommendations are then set over against the practices current in 821 of the 1,738 cities in the United States with 5,000 or more inhabitants, as revealed by questionnaire.

Some of the interesting findings which can be mentioned in a limited space are as follows: Seventy per cent of the cities reporting formulate their budgets before the beginning of the fiscal year covered, as recommended by authorities. Only one city in eight reports "long-period planning." In practice, the members of the educational staff, except superintendents, participate too little in budgetary planning. About one superintendent out of eight has nothing to do with preparing equipment estimates. In practically all schools reporting, budgetary planning includes an estimate of revenues as well as of expenditures. Approximately three-fourths of the cities base budget preparation on an adequate accounting system.

As a summary of the best current thought and opinion concerning school budget-making, the volume is excellent. The picture of current practices presented reflects the usual deficiencies of the questionnaire method. Fewer than half of the cities of the country responded. Nevertheless, the book gives the most comprehensive picture now available, and the volume as a whole should be of service both to the student of school administration and to the practical school man.

B. F. PITTINGER

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A textbook in health education.—A recent textbook in the field of health education¹ is in harmony with modern trends in that field. Home, personal, and community hygiene are discussed; the major emphasis is placed on the development of the right attitude toward health and the formation of correct health habits; and mental as well as physical health is considered.

The book is designed for use in either the junior or the senior high school. The subject content is organized into five units: "Health and the High School Pupil," "Eat and Live Healthfully," "Putting Food to Work," "The Control of the Healthy Body," and "Maintaining a Healthful Home." Each unit is subdivided into several problems. Exercises, study questions, and suggestions for optional work are provided in abundance. In the first unit there are a few objective tests. Score sheets for rating the personality of the pupil, the personal health of the pupil, the school program of physical activities, and the healthfulness of the home and the community are an interesting feature of the book. The Appendix includes a set of posture exercises, a chart for determining relative humidity, a table showing the fuel values of various foods, and directions for the preparation of culture media for bacteria.

¹ Frank Merrill Wheat and Elizabeth T. Fitzpatrick, *Everyday Problems in Health*. New York: American Book Co., 1933. Pp. vi+440. \$1.20.

The book is attractive in appearance and contains much valuable material. The authors are to be commended especially for the emphasis put on recent investigations in the field of health, for the attempt to shatter various deeply-entrenched health superstitions, for the straightforward style in which the material is presented, and for the numerous suggestions for experiments. There are many illustrations—graphs, cartoons, photographs, and the usual drawings showing anatomical structure—most of which serve their purposes well.

From the standpoint of organization the book is not altogether satisfactory. The reviewer is wholly in sympathy with the plan of organizing a course in health into units, but the authors have not embodied this plan with particular success. It is difficult to see, for example, that the first "unit" of the book is in any sense a unit. This "unit" includes discussions of accident prevention, disease resistance, cleanliness, exercise, posture, sight, and hearing. The title, "Health and the High School Pupil," gives no clue as to why this collection of topics should be considered a unit. The preview given at the beginning of the unit is merely an introduction designed to arouse interest; it is not a preview in the sense that it gives a picture of the unit as a whole. There are, moreover, no exercises which serve to bring the various topics discussed into a single whole.

The "problems" of the book appear to differ in no way from the chapters of the usual textbook. Representative titles of the subdivisions called "problems" are: "Play Safe," "Foods or Fads," "Looking Forward to Life Work," and "You and the Next Generation." Why, one wonders, are the problems not stated as problems? It is not clear, moreover, why "The Air in the Home" should be a problem under "Putting Food to Work" when there is a unit entitled "Maintaining a Healthful Home." Neither is it clear why the discussion of heredity, "You and the Next Generation," should be a part of the unit "Maintaining a Healthful Home."

The few objective tests included are of little value. In the multiple-choice test on page 39, for example, some of the items are poor because the provision of the prescribed number of choices has led to the introduction of absurdities; other items are poor because so many factors enter into the situations described that there are no "best" answers.

The idea of including score sheets is good, but some of the directions for scoring and some of the items included in the score sheets were apparently not carefully considered. To illustrate, in the directions for scoring one's self by means of the personality score sheet, the following two sentences are found: "To deserve a plus the activity must be habitual. If an activity does not apply to you, mark it with a plus" (p. 283).

Although the defects of the book are more or less obvious, they are not of such a nature as seriously to impair the usefulness of the book in the hands of a capable teacher, and its good points should make it a welcome addition to its field. As is inevitable in the case of a book in this field, there is a considerable amount of overlapping with the usual textbook in general science. Many of the topics introduced—water supply, sewage disposal, and bacterial

growth, for example—are commonly handled in a general-science course. In order that undesirable duplication may be avoided, a teacher who uses this textbook in a school in which general science is required of all pupils should check carefully the course in health outlined in this book with the general-science course taught.

BERTHA M. PARKER

A practical guide for supervisors and teachers of art.—It is indeed refreshing to discover two young authors of wide experience perpetuating the philosophy of modern art education so firmly initiated by two noted art educators, Walter Sargent and William G. Whitford. The program of art education developed by Professors Sargent and Whitford is evidently the key theme and direct influence of a new publication.¹ This fact alone ranks this textbook with the foremost publications in the field of art education for children. Justification of this statement is to be found in the comprehensiveness of the contents and illustrations, as well as in the spirit in which the book is written.

This book is well organized and portrays a definite plan; yet it embodies freedom and elasticity of interpretation and application. The authors' belief that rigid rules and cut-and-dried practices have no place in the field of modern art education is apparent. As a result, they have given suggestions rather than mandates. Unwillingness to issue mandates is the core of the book's success as an outstanding publication.

Fundamentally, this book deals with two essentials, namely, enjoyment and use, one of which without the other is not complete in an integration with the general program of education. Each complements the other: where there is practice, enjoyment is usually found, to enjoy art, one should practice. In short, the result which can be realized from this balanced combination of enjoyment and use of art is the development of more intelligent appreciators, consumers, and producers, not only of the fine arts, but of art found in the daily life of the child and the adult. In passing, it might be said that our education for citizenship depends considerably on the training of youth to be "art-minded."

Part I of the book deals with type problems in appreciation of art in the elementary school, not appreciation for adults, but appreciation for children. There is no attempt whatever to outline the many approaches to appreciation; rather, the authors offer some excellent models which may be followed or modified. The practice of free expression abounds in each of these type problems, yet each is applicable and fundamentally sound educationally. In short, Part I discusses the subjects which usually are most important to the teacher of art, namely, clay-modeling, figure work, design, color, painting, and history of art. In addition, Part I offers a most enlightening and intimate portrayal of three subjects pertinent to the supervisor and teacher, namely, "Developing Individuality," "The Teacher's Part," and "Subjects of Children's Illustrations."

¹ Jessie Todd and Ann Van Nice Gale, *Enjoyment and Use of Art in the Elementary School*. Chicago: University of Chicago Press, 1933. Pp. x+134. \$1.50.

Part II of this book offers some major type problems in the use of art in the public school, notably, modeling, the making of gifts, stage design, city planning, murals, designs applied. The authors also give a most understanding discussion of art and its application to daily life. Each of these studies suggests a wealth of successful practices in correlation with other fields of education.

A review of this publication would not be complete without mention of the suitable illustrations most effectively incorporated throughout. The book is profusely illustrated with actual drawings made by children at various grade and age levels, supplemented by vigorous, rhythmic drawings by the authors.

An excerpt from the Foreword by William G. Whitford gives a summary worthy of note.

The varied scope of the subject matter covered, the carefully prepared discussions of lessons, the generous amount of illustrative material, and the characteristic point of view of the child maintained throughout the volume will stimulate any teacher toward the improvement of her classroom technique and the enrichment of her contribution to the daily experiences of her pupils (p. v).

EVERETT E. LOWRY

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Effectiveness of the sound motion picture in the teaching of science.—Volume XX of the Harvard Studies in Education¹ describes an experiment to evaluate numerically the educational effectiveness of the sound motion picture in the teaching of general science. The study was financed by the Carnegie Foundation for the Advancement of Teaching and was conducted jointly by the Graduate School of Education and the University Film Foundation of Harvard University. The locale of the work was in the vicinity of Boston.

The experiment is one of the latest contributions to the study of visual aids in education, and as such it is a masterpiece of careful scientific research. The Introduction, which digests briefly previous research in this field in both America and England, evaluates three possible functions of the motion picture in education—informatory, stimulative, and clarifying—and then leads one to feel that the clarifying function is probably the most important. That function is, incidentally, the function which constitutes the chief problem of the experiment.

The experimental controls included an occupational classification of the pupils' parents, a "zero" group in addition to the usual experimental and control groups, and a balance of teacher load and teacher excellence, as well as the usual balancing of pupil groups in calendar age, mental ability, and subject-matter achievement (general-science background in this case). The total number of pupils was 2,980.

The tools of instruction consisted mainly of eight sound films, some selected and some especially produced for this experiment, and a specially prepared text—

¹ Phillip Justin Rulon, *The Sound Motion Picture in Science Teaching*. Harvard Studies in Education, Vol. XX. Cambridge, Massachusetts: Harvard University Press, 1933. Pp. xii+236. \$2.50.

book of eight chapters, three in physiography and five in biology. The results, obtained by means of two-choice pictorial and three-choice verbal tests, were as follows: mean score of the zero group, 36.8; mean score of the control group, 80.9; mean score of the film group, 90.0. The results gave the sound film a superiority of 20.5 per cent. In the retention test, given three months later, the superiority was even greater, namely, 38.5 per cent.

One of the contributions of this study to educational research was the division of test elements into rote and transferable learning. The film group acquitted itself very well on both types of learning.

The author draws three conclusions from the experiment:

The first [conclusion] concerns the children's attainment in terms of the subject matter generally: that presented by the text, class discussions, film, or teacher. In this large region the pupil-achievement increase ascribable to the use of the film may be expected to exceed 20 per cent.

The second conclusion concerns a smaller region: those facts and relationships specifically dealt with in the film used. Measured in acquisition and understanding of this material, the film-caused increase in pupil achievement may be expected to exceed 35 per cent.

The third conclusion is that neither of the above two gains may be expected to be made at the expense of more important but less definable educational values, such as good habits of thinking [p. 106].

In a critical review like this, one might touch on what appear to be slights and omissions. For instance, in the enumeration of possible causes for the pronounced differences between the results on the physiography test and those on the biology test, no mention is made of the human proclivity for locational memories; neither is any mention made of the plurality of non-visual relationships in biology as contrasted with physiography.

The study also seems to lack in originality, perhaps because the main results are largely confirmatory and because no attempt was made to analyze individual variations from the massed data. That omission is heavily offset, however, by the meticulous care with which the experiment was conducted. The investigators certainly performed the task which they had set themselves.

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A REACTIONARY SPEAKS HIS MIND

The January number of *Harpers Magazine* carries an article by Nathaniel Peffer entitled "Educators Groping for the Stars." Modern educators, according to this author, are deluding themselves into believing that the school may become an instrument of social control and direction. Worse than that, they even have the temerity to believe that human personality is a proper subject of investigation and that in some measure the school may be made to contribute to the development and growth of wholesome personalities. But the unpardonable sin of the modern educators is that they have prostituted science by attempting to apply its methods to the problems and the processes of education.

The following paragraphs are quoted from the article.

Broadly speaking, there are two main bodies of opinion on the frontiers of educational thought. One is centered on what may be called social reconstruction, the other on what is loosely and largishly called personality. The first sets the making of a new social order as the goal of the school. The second sets as its goal the prophylaxis and remedy for all the ills that make men unhappy in their personal lives. It would not only educate individuals to extract the full development of their capacities but correct their personal deficiencies. . . .

Granted that we are going into a new society, that it is more efficient to prepare by education for the kind of world we shall live in, and that the school ideally is the best agency for such preparation—granted; but who believes this? How large a proportion of our population now believes that we must have a collective society—or any other society essentially different in form from the one we have? More important, *how large a proportion of that part of the population which makes opinion and sets values?* View all these considerations against the setting of the recent quarrels in Washington over the right of labor to collective bargaining! The boards of trustees of our largest universities are composed of bankers, corporation lawyers, owners of large industries. Let the economics department of a university attempt deliberately to instill the principles of a communistic or socialistic society as preferable to the régime of private property and how long will the members of the economics faculty remain in the university? The school board of a city of one hundred thousand is composed of a prominent real-estate dealer, the president of the First National Bank, a Presbyterian minister, the vice-president of the Chamber of Commerce. Let them hear that high-school teachers in their town are teaching the evils of capitalism and private enterprise and pointing the lessons by laudatory descriptions of Soviet Russia and how long before the teachers are dismissed and proscribed from the teaching profession?

When indoctrination for a new social order is practicable it will no longer be necessary, for then the new order will already have arrived. Those who control the present order will have surrendered or been converted. Whatever education may be culturally or as a concept, as an institution it is not independent or self-sufficient. It cannot create; it can only reflect. It cannot generate new social ideas; it can transmit only those which are already accepted. It must always bend to the collective will around it. In social ideas it can rise no higher than the source of the thought, feelings, and beliefs of the dominant groups in the society in which it finds itself. Having regard to how ponderously and wastefully societies move, this is a regrettable fact, but it is a fact nevertheless. For educators to debate the merits of new social indoctrination in schools and universities is either an interesting but meaningless intellectual exercise or it is to clothe themselves with a fictive importance. They are followers, not pioneers. To attempt to endow themselves with a grander rôle is to waste motions or court heartbreak.

Yet these educators of whom I have been speaking are the more realistic and earthbound. The circles in which a heavy ferment has been stirred by the yeast of personality are less easy to describe. They are as elusive as they are grandiose. Educators of this school do not aspire only to re-make society; they aim to re-make man. I shall point out later that science has gone to the educational profession's head. And the part of science which is most highly aerated is psychology. It is probably easier to be scientifically unscientific about psychology than about any other field of human knowledge or endeavor. Certainly it is easier to adopt its phrases without a foundation of exact knowledge. . . .

How providential then the many and rapid discoveries of psychology! How they lend themselves to the uses of a profession which is just old enough to acquire a sense of dignity and not old enough to have background and depth. The lexicon of psychology is ideally adapted to patter. It can be intelligible without being understood. Unlike biology, physics, chemistry, law, or medicine, psychology does not require exact technical knowledge for purposes of discussion in other connections. For professional psychologists who remain in their laboratories it may, but not for others. We have then a happy conjuncture of circumstances: a profession which is newly arrived and must buttress its sense of inner security by setting its rôle in grandeur; the scientifically validated findings of psychology that knowledge and intellectual discipline are not enough, thus giving the profession scientific warrant for soaring; and in psychology a source of easy profundities which can be transformed into slogans.

Out of this conjuncture has come the succession of biennial philosophical systems and far-flung programs, each built on a new phrase or word. For one biennium it is "self-expression," now incidentally outmoded; for another "creative," then "orientation," "evaluation," "co-ordination," "integration." At the moment it is integration, with co-ordination not quite faded out. You cannot be counted among viable educational thinkers if you write three pages in an educational journal and do not use "integrate" at least twice, though if you say "co-ordinate" instead, you may still pass. To be sure, you need not define these words, and certainly you need not use them in the same sense twice. You need not even be certain what they mean. It is not particularly important what they mean, since they are primarily badges of membership. But you must use them. . . .

Education is now all-absorbed in personality. Told that a large proportion of human ills result from maladjusted and unadjusted personalities, it aspires to apply prophylaxis and cure. It conceives the duty of education to be the integration of personality, sometimes more modestly called the adjustment of personality. This entails, of course, vastly more than imparting information, drilling in the use of basic tools such as language and calculation, and disciplining the reasoning faculties. It takes in individual character traits, their formation and harmonious development, habits not directly related to the learning process, choice and fulfilment of career, family relationships, social relationships, successful marriage and parenthood, proper attitudes toward all situations in which the individual will ever find himself—mark the word attitude; it is already challenging integration and education may yet come to consist of teaching attitudes—and other intangible subjective factors about which the psychologists themselves can come to no agreement even as to classification. In short, it puts the school *in loco parentis*, if not *in loco Dei*. In fact, it is trenching very closely on God and nature. . . .

Assuming also that the personnel is available, how are these majestic functions to be carried out? Science supplies the answer. Education has become aware of science and taken it to its bosom. Why not? It is the motive force of

our age. From science have been acquired technique and research, at least as words. Now, science has its place, and its place is in the laboratory, where objects can be weighed and measured and counted and timed, the results always verifiable by tests. When a chemist addresses his colleagues on H_2O he reveals in a hundred words that he knows whether H_2O is buttermilk or ink. There can be no doubt, and no eloquence can conceal any uncertainty. And when he undertakes a research he must prove every step with verifiable evidence. All that education has taken over from science is the word research. By its very nature that is all it can take, for it deals with too many factors which are imponderable, which by their very essence are not measurable by fixed and unchanging standards. There can be no inductive method of approach to any of the questions which have just been raised. But because science has achieved conquests by methods proper to itself, education takes over the methods. Hence technique, studies, surveys, all the elaborate paraphernalia which lend an imposing exterior to futilities or trivialities. All education is passionately engaged in making studies to find the proper techniques for doing things that it does not know that it wants to do—or why it wants to do them. Technique has become the satisfying substitute for the breaking business of trying to understand. It is not a means to an end, as in the laboratory. It has become an end in itself. . . .

The unhappy truth is that education is at sea and rudderless, and has lost its bearings. Its grandiloquent fantasies and wild divagations are an escape from the harshness of facing the realization that it is without direction. It accumulates mountains of fact as a substitute for thinking about ends, whereas it is not facts that are lacking but an assured philosophic grasp, a philosophy which commands authority within ourselves and which can give us criteria by which to interpret facts. In all of which, of course, education is not differentiated from any other aspect of contemporary life.

Furthermore, education is suffering a reaction from a phrenetic inflation. It had an almost pathological growth in the last two generations. We had thought that by multiplying units of educational machinery we were really increasing the depth and breadth of education in the race. We now feel dimly that we did not. We increased only the machinery. In doing so, however, we also scrapped the only philosophy and method of education ever applied with success.

The classical discipline, which had preserved and transmitted the cultural heritage of the white race, was abandoned, in effect if not always in the letter. It was inadequate to the needs of a mechanized society, a society also which was no longer organized on a broad base with an all-powerful, aristocratic leisure class as apex. The classical discipline also had become arid with pedantry. It had really lost its force. In reaction against it we went to the extreme of the "practical." Education had to be for immediate use, for utilitarian application. We taught carpentry and bee-keeping and power-house engineering. And now we know that practical education is not even practical

Our educated classes are no longer educated in the old sense; they have no

broad culture. They are not educated either to deal effectively with the material environment in which they are placed. What the old education attempted to do, and what it is still doing where it has not been abandoned, it at least did well, inadequate though that may be for the world we live in. But in what it set out to accomplish it succeeded. What we have been attempting to do in all our groping, more soundly conceived as it may be, we have failed in. We have the advantage of neither the old nor the new. It is instructive to compare a hundred educated Americans with a hundred educated Europeans. Class for class, level for level, ninety of the hundred Americans will be relatively ignorant; not only ignorant but uncultivated. In compensation we have not even any greater effectiveness in our environment. . . .

In the language of disarmament conferences I suggest an educational holiday. I suggest an arbitrary, ruthless restriction of "studies," "surveys," "projects." I suggest an unrelenting birth control of educational associations and the adjournment *sine die* of educational conferences, which generate enthusiasm that leads to reckless speech. . . . I suggest that educators take themselves at whatever point they now find themselves, resolving only to do well that which they are now doing. Unconvinced though they may be of the ultimate value of what they are doing, doing it well is itself an end, and therefrom they may also come to see what is more worth doing. They will at least have time to think and to form judgments. They will save the energy and time lost in false motions.

The author of the article from which the foregoing paragraphs are quoted has only two positive suggestions to offer. One is made indirectly and in a somewhat veiled fashion when he says that the classical discipline is the only philosophy and method of education ever applied with success. The other suggestion is that we take an educational holiday. Whatever may be the shortcomings of the schools or the vagaries of educators, it is not at all likely that either educators or the lay public will follow a leadership so bankrupt in ideas that it has nothing to offer but a return to the classics or a cessation of all attempts to make the school a more effective social instrument.

IS LOCAL CONTROL OF EDUCATION DEMOCRATIC?

We in America are in the habit of regarding our educational system as the most democratic in the world. In education, as in other aspects of our political organization, we have regarded local autonomy as evidence of the democratic spirit of our institutions. For more than a century the "little red school house" has been the symbol of our educational democracy and, in view of the fact that 60 per cent

of the school buildings of this country still are one-teacher schools, it would seem that our faith in localism has not been greatly disturbed. It may, therefore, come as something of a shock to many of us to have a foreign observer point out that our educational system is not nearly so democratic as we had supposed and to attribute this lack of democracy to the type of local control to which we have tenaciously clung.

The foreign observer to whom reference is made is J. G. Cannon, inspector of schools in Victoria, Australia. In a monograph entitled *Comments on Education in U.S.A. and Victoria*, published by Melbourne University, Mr. Cannon makes the following comment on the inequalities in educational opportunity which our type of district organization necessarily entails.

The Americans regard their public school as a very democratic institution, but from the Australian point of view their system allows of so many inequalities of opportunity that many public schools seem to resemble closely the Australian private schools which provide for people who are able and willing to pay substantial sums of money for the education of their children in a selected social group. This state of affairs arises from the system of local control so dear to the prosperous educationists of America and their admirers. In some cities the way by which public schools may be given the characteristics of private schools is by the formation of "villages." These may be small, exclusive, suburban areas in which well-to-do people whose business interests lie in the cities make their homes. The village provides its own schools from school taxes paid by landowners in its territory. Winnetka, at Chicago, and Bronxville, at New York, are examples.

The truth and implication of Mr. Cannon's statement cannot be denied. Within any given community we afford substantially equal educational opportunities to all youth, but as between communities we recognize and permit to exist the most striking inequalities. Practically, it will be impossible for some time to come to afford youth in sparsely settled communities the same educational facilities given youth in more thickly populated areas. Until some of the more glaring inequalities between communities are eliminated, we shall have to speak of our "democratic" school system with a degree of moderation. The remedy, of course, lies in the elimination of the small district and in state and perhaps federal aid to education.

EDUCATION AND CRIME AS VIEWED BY WARDENS
OF PENITENTIARIES

Some time ago Grover C. Ramsey, chairman of the Committee on Publicity of the American Federation of Teachers, addressed a letter to the wardens of a number of state penitentiaries requesting that they make some statement with respect to education as a preventive of crime. The following letter from J. M. Sanders, warden of the Missouri State Penitentiary, is more or less typical of the replies received

September 4, 1933

*Mr. Grover C. Ramsey, Chairman
Committee on Publicity
American Federation of Teachers
231 North Pine Avenue
Chicago, Illinois*

DEAR SIR: In reply to your letter of September 1st, [I] beg to say that I am not in favor of reducing the public-school curriculums one iota, and what I have to say on the subject comes from thirty years' personal experience as an officer of the law and finally as warden of the third largest prison in these United States.

Crime costs the taxpayers thirty millions of dollars daily. This amount is 50 per cent greater than the combined net earnings of all our corporations. The average age of those convicted is nineteen, and this means that ten years ago the average prisoner was in the grade school. But what is more significant is the fact that the men who will be in the prisons in 1943 are the boys that are in the public schools today. Today, in this country, we have an army of boy hobos numbering over 300,000 and most of them mere youths. There are nine and one half million school children in the United States that are faced with bad schools or none at all. This is serious; it must be remembered that Ignorance is the Siamese Twin of Crime.

One-fifth of all the arrests last year were mere boys and over 42 per cent were repeaters. It is an ugly picture when we know that 75 per cent of all the habitual criminals were convicted before the age of eighteen. You cannot start at the penal institution. You can only expect returns if you start with the child, the parents, the home, and our public schools with their parent and teacher organizations.

Our average population last year in the Missouri State Penitentiary was 4,613 inmates, with ages ranging from 14 to 87 years. Of this number, 7 per cent had no schooling; 18 per cent up to the fourth grade; 25 per cent graduated the eighth grade; 4 per cent went to high school; and 1 per cent went to college.

With the above in mind, how can a man with an honest conscience reduce our public-school systems and give more idle time to our children and young men

and women in their teens? Surely, there must be other means of saving money than taking knowledge from the coming generation.

It is best that all of us remember we are not dealing with dollars and cents—we are dealing with lives and young thoughts that are human. When we leave, let us be sure that our children and our children's children have the educational advantages that we knew; in that, we can be assured of a future race well educated and with less crime and criminals.

Trusting this may be of interest to you and be of some benefit in your work,
I am

Yours very truly,

[Signed] J. M. SANDERS, Warden

THE FRENCH CONCEPTION OF EDUCATION

In a recent number of the *News Bulletin* of the Institute of International Education, Auguste Desclos describes as follows the fundamental purposes of French education.

The ideal product of French education is still the same as of old—so well defined by the old expression now obsolete as a phrase, but not in its significance—*l'honnête homme* of the seventeenth century. *L'honnête homme*, says La Rochefoucauld, *est celui qui ne se pique de rien*. It is the man who has no special interest in any one subject, but who has an intelligent view on everything. *L'honnête homme* believes with Aristotle that what distinguishes man from the beast is thought; he also believes with Descartes that it is thought which characterizes conscious existence: *Cogito, ergo sum*; and that the great thing in life is to think clearly.

L'honnête homme is prepared to understand everything. Though he has in modern days acquired the special knowledge necessary for his everyday avocations, he is not a specialist but a cultured gentleman. He does not think of himself primarily as an engineer, a salesman, or a lawyer, but as a man to whom nothing human is foreign, and the qualities that he values are not the technical skills of the moment, but the perennial virtues of unchanging humanity.

In our French schools and universities, therefore, it is not to science or literature, or philosophy, or the plastic arts, or any technical knowledge that we give pre-eminence, but to culture, that full and rounded development of the human faculties which is itself a work of art. This conception of the pre-eminence of general culture is the most original, the most specifically French of our educational ideals and practices. It dominates every grade of our system, even the elementary and the technical. The ideal of culture is almost a religion on which all are agreed; when it is in danger, all the country is up in arms to defend it.

Culture is difficult to describe. It is perhaps easier to say what it is not than what it is. It is certainly not encyclopedism: the knowledge of everything; neither is it specialization: the knowledge of one thing. Indeed it is not knowledge at all, but knowledge transmuted into power—pollen into honey. It is the

result of a method for a training of the mind, that has endeavored to teach it to think, to think clearly. Montaigne has said, "Better a head well made than a head well filled." A head well made is the product of culture.

Perhaps the best definition would be to say that culture is what remains when you have forgotten everything. What is it that remains? Many things: the understanding quickened and deepened—a breadth of outlook—a catholicity of sympathies—a refinement of taste—an appreciation of beauty—a delicacy of feeling—a sense of measure—a modesty of judgment—a critical habit of mind—the habit of taking nothing for granted—of thinking for one's self, that habit which is the very soul of liberty—the habit of sincere unbiased approach to any problem and of the undaunted pursuit of its ultimate solution in a real scientific spirit—a proper and balanced conception of the various uses of life, of its graces as well as its utilities. Those are some of the things that remain, some of the elements of that full and rounded life for which we endeavor to prepare our students.

LIABILITY OF SCHOOL EMPLOYEES FOR INJURIES TO PUPILS

There have been few, if any, judicial decisions dealing with the liability of teachers or other employees of school boards for negligence which causes injury to pupils. Considerable importance, therefore, attaches to a decision on this issue recently handed down by the Supreme Court of Iowa in the case of *Charles F. Hibbs v. Independent School District of Green Mountain*.

The facts of the case are as follows: The board of education of an independent school district employed one James W. Wilson to transport pupils to and from school. While the school bus was being driven by Wilson's wife, Mary E. Wilson, an eight-year-old pupil who was riding on the front seat with the driver fell or was thrown from the bus. In some way not definitely disclosed by the evidence, the door of the bus opened. The pupil fell out and thereby sustained serious injuries. Action for damages was brought against the school district and against Mary E. Wilson. In the lower court the school district was held exempt from liability, but Mary E. Wilson was held liable in damages to the amount of \$750. On appeal the Supreme Court set aside the judgment against Mary E. Wilson. The issue of the school district's liability was not raised before the Supreme Court.

The following paragraphs are quoted from the opinion of the court.

Preliminary to a discussion of the merits of the one proposition relied upon for reversal, which we deem it necessary to consider in this opinion, the court desires to call attention to a few well-established general principles applicable to the facts of this case. Municipalities possess, and exercise, two distinct classes of powers,—one, governmental in character in which it acts in a sense as a sovereign, and the other, proprietary or ministerial, in which it acts for the private advantage of the inhabitants of the municipality. *Norman v. City of Chariton*, 201 Iowa 279. When acting in its purely governmental capacity, municipalities are not liable in damages resulting from negligence on the part of its officers, servants, and agents

The same rule of non-liability applies to the officers of such municipality. . . .

The foregoing rule of immunity from liability has been numerously and variously applied to school corporations. . . .

No case against an employee of a school corporation directly involving personal liability on his part for negligence causing injury to a pupil has been called to the attention of the court. No reason would, however, seem to exist for granting exemption from liability to the employees of other municipal corporations whose negligence has resulted in injuries or damages for which relief is sought, where the same arose while the municipality was engaged in the performance of a governmental function and to deny the same to an employee of a school corporation when similarly engaged.

It was held in *Catwell v. City of Boone* [51 Iowa 687] that cities are not liable for torts of police officers while engaged in the enforcement of police regulations and that such cities cannot make themselves liable by ratification of such acts. A school corporation, being an independent agency of the state for the purpose, in part, of the education of the boys and girls residing therein in providing for the transportation of pupils to and from school is engaged in the performance of a governmental function. . . .

The trial court, upon motion of the school district, directed the jury to return a verdict in its favor but declined to so rule upon a motion of appellant upon the ground that she was also engaged in the performance of a governmental duty at the time the accident occurred. The plaintiff has not appealed from the ruling of the court denying recovery against the independent school district, and the correctness of the court's ruling on the motion to direct in its favor is not involved on this appeal.

It is alleged in the petition of appellee that appellant, who was the driver of the bus, was employed by the independent school district to operate the same and to convey the pupils to and from school. Appellant testified to the same effect and also that she was the owner of the bus. The defendant school corporation specifically denied that appellant was employed by it and that the contract for the services being rendered by her was with James W. Wilson, her husband. . . .

Many cases are cited above to support the practically universally recognized

rule that the exemption from liability in cases of this character applies as well to the school corporation, its officers, and, upon principle, it must be held to apply to its employees. Had the husband been driving the bus, it would have to be conceded that he, under the circumstances of this case, would be immune from liability. Appellant, with the knowledge and acquiescence of the school board, was performing the identical functions and rendering the same service as her husband would have rendered. If not technically an employee of the district, it is only because her husband whose place she had taken, sustained a technical contractual relation thereto. No case directly in point has come under our observation. The rule of non-liability exists because the functions being performed are for the common good of all without any special corporate benefit or profit. No distinction in principle can be made upon the basis of which the general rule of non-liability shall not be applied to the facts of this case. The contract for carrying the pupils is not before us. It follows that appellant's motion for a directed verdict should have been sustained. The judgment appealed from is, accordingly, reversed.

EVIDENCE ON THE PREDICTION OF VOCATIONAL SUCCESS

For a number of years Professor E. L. Thorndike, of Teachers College, Columbia University, has directed an investigation to determine the significance of certain indices in predicting vocational success. The evidence accumulated to date indicates that the indices usually employed in vocational guidance are of practically no value in predicting at the age of fourteen the vocational success which the pupil will have attained at the age of twenty-two.

The following statement by Irving Lorge, research associate, Teachers College, Columbia University, describing the results of the experiment to date, was published in the *New York Times*.

In 1921 the Commonwealth Fund commissioned the Institute of Educational Research at Teachers College to evaluate for vocational prediction certain items of school record as well as of psychological measurements. Under Dr. E. L. Thorndike's direction the institute attempted to ascertain the significance of school records of "scholarship," "conduct," and attendance, and of tests of intellect, clerical ability, and mechanical adroitness for vocational success.

To do this, 2,500 New York City children in 1921 and 1922 were measured with tests purporting to measure intellect, clerical ability, and mechanical adroitness. For each child tested, measures of school scholarship, conduct, and attendance to the time of the test were computed. In order to find out the predictive value of each of these items for later success, it was essential to follow up each child up to age twenty-two or later. This we did. . . .

When the child was located and found at home, the field worker asked questions concerning the schools attended, the age of leaving, and the grade reached before leaving school. This information was checked against school records. The child was also asked where he worked, what work he did, how much he earned, and how he liked the job. In addition, each job was classified as primarily clerical, mechanical, or professional in nature, and categorized as to level of responsibility or dignity. From these records two criteria were developed: an educational-success criterion and a vocational-success criterion.

We now had data concerning each child's school adjustment up to age fourteen and his scores in psychological tests at age fourteen, which could be evaluated in terms of educational and vocational success. Let us consider, first, the findings for the prediction of educational success.

A score on an intelligence test of an hour or less predicts future educational success better than the progress record of approximately eight years in school, and nearly as well as teachers' estimates of conduct or ability. This fact is not only of great importance for theories of guidance but also of immediate and wide practical utility. Such a test can be given anywhere at any time with strictly comparable results. Such a long record of teachers' marks as we have used is difficult and often impossible to obtain; and the standards of different school systems vary so much that the predictive value when children of different school systems are compared will be lower than that found by us, and occasionally will be grossly misleading.

When, however, we direct our attention to the prediction of vocational careers we find that no fact at or near age fourteen, or best combination of facts, will predict vocational success. This unpalatable truth is challenging. There is, however, no gainsaying that such facts as we have about a child at age fourteen do not predict success at work as measured by our criteria. Our criteria were: (1) the yearly earnings from age twenty to twenty-two, corrected for cost of living, unemployment, and salary level; (2) the average level of the job at these ages, and (3) the average satisfaction with the job.

Among those who engage in mechanical work, success in school to age fourteen and scores in intelligence tests at that age are nearly valueless and nearly equally so in predicting earnings, level of work, and interest in job at age twenty to twenty-two. In any case, no combination of the facts gathered by us at age fourteen would have enabled a vocational counselor to foretell how well a boy or girl would do in mechanical work six to eight years later, or how happy he would be at it. The judgments of the counselor would have had about 98 per cent as large errors as if he had made them by pure guess.

Success at clerical work at age twenty-one is predicted relatively much better than success at mechanical work or mixed work, but still very inadequately.

On the whole, it is safe to infer that boys and girls who are above the average in any of our tests or any feature of school success will do relatively better at clerical work than at mechanical work. The latter pays smaller bonuses for excellence in these respects—at least up to age twenty-two. It is the less skilful and less scholarly who profit by choosing mechanical work.

On the whole, the vocational histories of these boys and girls are not in accord with the opinions of those enthusiasts for vocational guidance who assume that an examination of a boy or girl of fourteen and a study of his school record will enable a counselor to estimate his fitness to succeed in this, that, and the other sort of work.

PUPIL PERSONNEL RECORDS

The Department of Public Instruction of Pennsylvania has published a bulletin (Number 81) entitled *Cumulative Pupil Personnel Records: Elementary and Secondary Schools*. The bulletin includes the report of the Committee on Records and Reports appointed by the Department of Public Instruction to review various forms of records and to develop forms suitable for use in the schools of the state. The bulletin contains examples of cumulative pupil personnel record forms for elementary and secondary schools and examples of the following supplementary record forms: registration card, curriculum-election record, transfer card, pupil self-analysis form, home-visit record, pupil-teacher conference record, health card, and teacher's estimate card. Suggestions are made and directions given with respect to such matters as the following: collection and organization of data for cumulative record forms, installation of the cumulative record system, and the making of entries on record forms and cards.

A COURSE OF STUDY IN SCIENCE IN THE ELEMENTARY SCHOOL

A recent bulletin published by the Maryland State Department of Education outlines a course of study in science for the first seven grades of the elementary school. Albert S. Cook, state superintendent of schools, comments on the bulletin as follows:

This bulletin brings to the attention of supervisors, teachers, and children a number of units of study in elementary science. . . .

Science, in the fields of biology, physics, and chemistry, has for a long time been included in the program of studies for our high schools, but, although our elementary-school programs in nature-study, geography, and health have contained elements of enrichment from science, there has been small evidence of specific science content and method. We have never had an organized and continuous program for the study of science from the first grade through every successive grade of the elementary school.

This bulletin, prepared by Miss I. Jewell Simpson, assistant state superintendent in charge of elementary instruction, provides material and suggestions for forty-two units—six for each elementary-school grade—from the fields of geology, astronomy, biology, physics, and chemistry. . . . Teachers will find

enough material in these units to make good headway in science-teaching. It is, of course, understood that a teacher's preparation will include the use of references listed at the end of each unit and will extend much beyond the material in the bulletin.

The plan of the bulletin and the content of the units included in it are described as follows:

The material of the bulletin is organized in forty-two units . . . distributed among seven grades under three major categories—universe, living things, chemical and physical processes:

Universe, which deals with the earth in relation to sun, moon, stars, and planets; and also with the earth and its rocks, its soils, its contours and physical structure.

Living things, dealing with the adaptation of animals and plants to their environment, and with their interrelation and interdependence.

Chemical and physical processes, which deal with the great laws underlying the conservation and changes of matter and energy and the sources and uses of power.

An effort has been made to maintain a balance in the several major fields of science—astronomy, biology, geology, physics, and chemistry—suitable to the maturity and interests of elementary-school pupils. . . . Eight of the forty-two units deal with the universe (astronomy and geology); twenty-two, or more than half of the total number of units, deal with living things (nature-study and biology); while the remaining twelve units deal with chemical and physical processes (chemistry and physics).

Nature-study outlines of former years were concerned mainly with plants and animals. Today, it would seem that the most appropriate materials toward which to direct the attention of young children are those concerned with plants and animals, although undoubtedly considerable material simple enough to be used in the lower grades may be drawn from the physical sciences. Children are living in a world where their environment is being changed by physical science perhaps even more than by biological science.

The units are set up in fairly uniform style with a generalization at the beginning followed by several statements of important ideas or understandings designed to guide the teaching and serve as a check on the outcome. These large ideas or concepts appear under the caption, "Things To See and To Understand." Under another caption, "Things To Do and To Talk About," are suggestions designed to guide observation, experiment, discussion, and procedure. At the end of each unit references for the use of pupils and teachers are listed.

Making observations and collecting materials for class study and experimentation is largely the children's responsibility. This should develop initiative and resourcefulness as well as be a great help to a busy teacher.

The units are suggestive enough both in content and in procedures so that even the timid teacher and the teacher with little training in the field of science

can make a good beginning in teaching the subject, can guide the simple experiments, and can go adventuring with the children into what a poet has fittingly called the "great, wide, beautiful, wonderful world."

UNEMPLOYED COLLEGE AND UNIVERSITY GRADUATES

In a recent number of the *News Bulletin* of the Institute of International Education, E. R. Murrow makes the following statement with respect to unemployed college and university graduates in this country and in Europe.

There appear to be no reliable statistics concerning the number of unemployed college and university graduates in the United States today, but such figures as are available indicate that at least 70 per cent of the graduating classes of the past three years have not found employment and that the total number of unemployed college and university graduates is approximately 500,000. While there seems to be general agreement that our institutions are overcrowded, no well-thought-out analysis has been made to determine where and to what extent overcrowding exists, to determine its causes, to make clear the consequences of overcrowding upon the universities' chances of fulfilling their function, and to study solutions which have been attempted or suggested in order to test their applicability.

International Student Service has collected certain data on conditions in countries other than the United States which indicate clearly the increase of university population. Between the years 1913-32 university enrolment increased 377 per cent in Bulgaria, in Poland 231 per cent, in Holland 124 per cent, and in India 170 per cent. During the same period the institutions of Spain, Denmark, France, Sweden, Italy, and Germany report increases varying from 68 to 81 per cent. The smallest increase in any European country is found in Switzerland with 3.8 per cent. The greatest increase is of course found in those countries which became independent after the war, whose boundaries were extended and whose systems of higher education have been developed in the main during the past thirty years. In almost every country there is a marked increase in medical and law students. At least a portion of the increase may be explained by the fact that many preferred higher education to continued unemployment. Choice of faculties or fields of study appears to have been dictated by opportunities for employment resulting in steadily rising numbers in certain professions long after the saturation point had been reached.

Little or no relationship exists between increase of students and increase of population. Certain states established after the war were in dire need of university-trained people to staff their administrative systems. The influx of students has continued long after the demand for their services in civil-service positions has been met.

The increase of women students has been greater in all countries than the

general increase. The number of students per each staff member has increased making personal contact between student and professor more difficult. Moreover in many European countries it has been impossible to supply the necessary equipment to meet the increasing enrolment. The introductory report of the *European survey*, written by Dr. Walter Kotschnig, concludes that "any exceptional height of achievement on the part of professors and students is won not because of, but in spite of, the popularity of university study."

It is clear on the basis of data collected that Germany is sending out of her universities more than twice the number of professionally trained graduates than can be absorbed. Latvia is producing 500 graduates every year for every 200 posts. In Czechoslovakia the proportion is 3,500 to 2,100. From 1928 to 1931 Norway graduated 290 doctors, dentists, lawyers, and clergy—125 found no posts.

Dr. Kotschnig has recently arrived in this country to project the survey into American conditions. The results of his researches will be awaited with interest. It is possible that the problem may be met in many ways—vocational guidance, the introduction of a "work year"—better distribution of intellectual workers between town and country and the establishment of stronger organizations and associations designed for collective bargaining would seem to be possibilities. Intellectual work being considered in most countries as a commodity is subject to the usual depreciation that follows an oversupply, but the solution will not be found in planning alone. While manual labor is considered to be of inferior worth and while intellectual and manual workers live in opposite worlds, the rising tide of university graduates will be hard to check. The universities will continue to turn out graduates unable because of unemployment, bitterness, and disillusionment to play their part in the revaluation of social values.

THE UNIVERSITY OF CHICAGO DINNER

The University of Chicago Dinner, given annually during the week of the meeting of the Department of Superintendence of the National Education Association, will be held at the Chamber of Commerce Club in the Terminal Tower, Public Square, Cleveland, Ohio, on Wednesday evening, February 28, 1934. Alumni, former students, and friends of the University are most cordially invited to attend the dinner. Tickets, at the rate of \$1.25 each, may be secured from William S. Gray, Department of Education, University of Chicago, or from Miss Clara B. Severin, 2593 Dartmoor Road, Cleveland Heights, Ohio.

EVIDENCE OF THE NEED OF CAPABLE INSTRUCTIONAL LEADERSHIP

WILLIAM S. GRAY
University of Chicago

FUNCTION OF SUPERVISION

The unique function of instructional leadership is the improvement of teaching. In achieving this end, such leadership seeks to co-operate with, and to provide guidance for, intelligent, professionally-minded men and women engaged in teaching. As explained in the Sixth Yearbook of the Department of Supervisors and Directors of Instruction, leadership invites "participation in the formation of instructional policies"; stimulates "variation in educational thinking and planning"; encourages "experimentation to test the values" of such variations; and provides for the "maximum development of self-direction, self-appraisal, and self-control of the teaching staff."¹ The rapid expansion of supervisory agencies during the last two decades bears silent testimony to their importance. The numerous reports and yearbooks that have been published show notable progress in defining the function and the scope of supervision and in developing and refining its techniques.

Progress in this field has, however, been temporarily halted. In the name of economy, essential services are being curtailed and not infrequently eliminated. From near and far come reports of drastic reductions in the supervisory staff. Such changes are apparently based on the assumption that supervision is an accessory service rather than an indispensable part of the instructional organization. This article challenges the validity of such an assumption and presents evidence of the urgent need of instructional leadership in school units of various sizes and in schools representing widely different racial, social, and economic conditions. It shows conclusively that

¹ *Effective Instructional Leadership*, p. 2. Sixth Yearbook of the Department of Supervisors and Directors of Instruction of the National Education Association. New York: Teachers College, Columbia University, 1933

a vigorous supervisory policy promotes far more rapid progress in improving teaching than is usually attained otherwise. It emphasizes the need of more rather than less supervision during the period of radical reconstruction which elementary education and secondary education now face.

AN EXPERIMENTAL STUDY OF THE NEED FOR SUPERVISION

The evidence upon which the conclusions and the recommendations presented in this article are based was secured in a supervisory experiment which began in 1926 under a subsidy from the Commonwealth Fund and continued for five years. The following were the chief purposes of the study: "to determine ways and means of reorganizing and improving the teaching of reading in harmony with the results of scientific studies"; "to study the character of the administrative, supervisory, and teaching difficulties encountered in a supervisory campaign planned to improve reading instruction"; and "to determine the effect, if any, on the achievement of pupils that accompanies and follows vigorous efforts to improve teaching."¹ The experiment was carried on in two groups of schools. The first included four school units varying in size from a rural school to schools in a city with a population of 35,000 and representing widely different types of supervisory service. The second group included five specific schools representing different racial, social, and economic conditions. The findings are verified in large measure by the results of more than a score of published studies, the specific purpose of which was to make desirable changes in the teaching of reading in cities, rural areas, or districts of a state.

Attention will be directed first to the need of instructional leadership under normal conditions, such as prevailed before the depression. A survey of the status of reading in more than thirty schools at the beginning of the study in 1926 revealed a series of illuminating facts. First, the general breadth and character of the instruction given differed widely. Many schools still adhered to the narrow content and formal methods characteristic of instruction in reading given two decades ago. Other schools had greatly improved the

¹ William S. Gray, with the assistance of Gertrude Whipple, *Improving Instruction in Reading: An Experimental Study*, p. 2. Supplementary Educational Monographs, No. 40. Chicago: Department of Education, University of Chicago, 1933.

breadth and excellence of their teaching by enriching the activities of the reading period; by providing wide, interesting, purposeful reading in the content fields; by organizing the materials read in terms of challenging units or problems; and by providing appropriate guidance in reading in all school subjects and activities. Accompanying these differences in the kinds of instruction given were equally significant variations in the reading achievements and interests of the pupils. Some schools ranked distinctly above the norms in achievement, and others ranked shockingly low. The pupils in some schools had acquired varied interests and had engaged in wide, diversified reading. In other schools the pupils gave evidence of few such interests, did little or no independent reading, and engaged in study activities haltingly and ineffectively.

A careful study of the conditions which accompanied these differences supplied striking evidence of the value of instructional leadership. In practically every school in which efficient teaching and satisfactory achievement were found, a capable superintendent, supervisor, or principal directed and inspired the staff. In such schools a spirit of confidence and professional zeal prevailed. The teachers had caught a vision of the broader outcomes of teaching and exhibited keen interest in the achievements and the needs of their pupils. They had adopted an inquiring attitude toward their difficulties and were proceeding intelligently in their attempts to solve their problems. In the schools which secured unsatisfactory results, there was either little supervision (often none) or inadequate instructional leadership. Far too frequently the staff was discouraged and had lost hope of improving conditions. The teachers were in need of guidance and inspiration to help them out of the morass and to lead them to higher levels of teaching. In other cases the teachers were not acquainted with progressive trends in teaching and were satisfied with the meager results secured. There was obvious need for leadership that would cultivate an inquiring attitude, inform and inspire the staff, and provide the help necessary in reorganizing and improving teaching. In still other cases the teachers recognized their deficiencies and were eager for help. Their supervisory officers, however, were not acquainted with recent professional literature nor with the results of scientific studies. They were either content to limit their activities

to administrative duties or were unwilling to put forth the necessary effort to secure the professional knowledge and acquire the technique essential in constructive supervision.

PROCEDURE AND RESULTS OF THE EXPERIMENT

The discussion thus far emphasizes the fact that superior teaching is usually found in schools directed by capable instructional leaders. Next will be presented evidence which shows that, if a vigorous supervisory policy is adopted, the rate of improvement may be greatly accelerated.

Following the initial survey, which has been described, a careful study was made of the steps essential in each co-operating school in order to improve instruction in reading. During the spring of 1926 the administrative officers acquainted the staff with the purposes of the investigation, directed them in the study and interpretation of the results of the initial survey, readjusted or added to the supervisory staff, secured funds for needed books, and in other ways prepared for a vigorous drive in the following year to improve the teaching of reading. The principals and the supervisors co-operated actively in these preliminary steps.

During the school year 1926-27 a comprehensive supervisory program was organized and carried on in an effort to stimulate teachers and to supply them with the help and guidance needed. Among the specific steps taken, only four will be mentioned: (1) Studies of the needs and achievements of pupils were made at the beginning of the school year. (2) Conferences were held on basic reading problems, such as teaching pupils to read thoughtfully or stimulating independent reading interests. (3) Provision was made for concrete help in solving problems and in overcoming difficulties through such means as demonstrations, exhibits, and personal conferences following classroom visits. (4) Systematic measures of the progress and the needs of the pupils were secured. The supervisors and the principals also carried on intensive studies of specific supervisory problems. One such study related to problem teachers, a second was concerned with the nature of supervisory activities. Committees composed of the more acceptable teachers were organized to study and report on various practical issues, such as desirable preprimer activ-

ities, stimulating units in the content fields, remedial cases and their treatment, and other problems of a similar nature. At the end of the school year a careful study was made of the results achieved during the year. Significant changes in the character of the instruction were noted, and the progress in the achievement of the pupils was measured by standardized tests. Wherever possible, the tests were repeated in the spring of 1928, 1929, and 1930 to determine the extent to which improvement continued after outside stimulation, guidance, and pressure had been removed.

The evidence secured showed conclusively that notable progress can be achieved as a result of an intelligent, vigorous supervisory policy. All the schools which attacked the problem seriously made distinct progress in increasing the achievement of pupils in reading. Even more significant is the fact that many of the schools developed reading programs of far greater breadth and excellence than they had previously provided. Some of the co-operating schools made little or no progress. In each case, however, the failure to improve could be readily explained. For example, one school received no supervision except the occasional supervision which could be provided by the experimenter and his assistant. The teachers needed not only systematic guidance and stimulation from a sympathetic leader but also at times that type of pressure which only a tactful and judicious school officer can exert. A second school was directed by a principal who was so absorbed in administrative duties that he could give little or no time to supervision. The principal of a third school was unfamiliar with the professional literature on reading and had not acquired the technical knowledge and skill essential in effective supervision. It required a year or more before she was prepared to exercise constructive leadership. Her subsequent record supplies ample evidence of the value of the rigorous training and discipline to which she subjected herself during the course of the experiment.

Without doubt, the most gratifying result of the experiment was the notable progress made in the schools which were supervised by intelligent, professionally-minded leaders. Brief reference will be made to one such case. At the beginning of the study one of the experimental schools had no principal. A young woman from the superintendent's office was assigned to the school for the exclusive

purpose of helping to improve teaching. Because the woman was relatively untrained, only limited progress was made during the school year 1926-27. In 1930 the investigator asked for a report of the steps taken since 1927 and for the privilege of repeating the tests used during the study. The report submitted contained an illuminating account of significant changes in both the content and the methods of teaching reading, in the provisions made for purposeful reading in the content subjects, and in the guidance provided in all reading activities. Concrete evidence of the professional growth of the staff was also included. The results of the tests showed that the pupils had attained high levels of achievement in all phases of reading. The supervisor had begun two years earlier to direct the improvement of instruction in two other schools. The steady progress which the pupils in these schools were making, as revealed by tests which had been given at frequent intervals, supplied striking evidence of the effectiveness of her leadership.

IMPLICATIONS OF THE FINDINGS

The discussion thus far suggests the urgent need for instructional leadership, supplies evidence of its value under normal conditions, and shows that a vigorous supervisory policy stimulates constructive changes in teaching and greatly increases the achievement of pupils. In view of these facts, the validity of recent economies secured through the reduction or elimination of the supervisory staff can be seriously challenged. In a sense, such economies may be likened to those attained by failure to provide a reliable steering wheel, proper lubrication, and a good quality of gasoline in an automobile. Under such treatment an expensive and otherwise efficient machine fails to function properly because of the lack of essentials which represent but a very small percentage of the total investment. The assumption that supervision is an accessory and that the amount and quality of supervision may be radically reduced without harm is invalid in the light of the evidence available. Instead of greatly reducing or eliminating all supervision, as has been done in many cases, it would be far better to distribute necessary economies so that talent and energy can be reserved for maintaining instruction at a high level of efficiency.

The results of this study point to another fact which cannot be overlooked. Many persons serving today as superintendents, principals, and supervisors are providing inadequate instructional leadership. Continued expenditure of public funds to retain such workers cannot be justified. It is imperative, now as never before, that supervision be maintained at a high level of efficiency. The depression has emphasized the need of radical changes in both elementary and secondary education. For example, the course of study must be revised to insure greater social enlightenment and understanding, to develop social rather than selfish personalities, to stimulate interest and initiative in discovery and planning, and to promote greater efficiency in independent reading and study activities. The necessity of such changes and improvements makes it essential that we have capable and inspiring leadership in every school system, every school, and every classroom.

In the space that remains at my disposal, I wish to point out four conditions, in addition to capable leadership, that are essential in effecting desirable changes in teaching. These will be discussed in terms of the findings of the experiment to which frequent reference has already been made in this report.

The first necessity is a competent and professionally-minded staff. In each of the schools which made distinct progress, the staff was either reasonably well trained and prepared to co-operate intelligently or was capable and willing to learn. In some of the schools, however, there were teachers who were inadequately trained or who were incompetent and hostile. The former were able to overcome their limitations in the course of time; the latter presented almost insuperable barriers to progress. The fact that a staff with limited training but with appropriate professional attitudes and zeal can revise its practices in the light of progressive trends was demonstrated in all schools directed by stimulating, informed leaders. On the other hand, poorly trained teachers with inadequate supervision made only a limited amount of improvement even with outside stimulation and assistance. Little or no progress was made in schools taught by teachers who were not deeply concerned with the problems of teaching, who were self-satisfied, or who were hostile to suggestions which involved additional work or interfered with their

routine. Fortunately, the number of teachers of this type was small. The conditions described justify the conclusion that only those teachers should be engaged, or indeed retained, who look on teaching as a challenging profession and who are willing to exert continuous effort in increasing their efficiency and in effecting needed reforms. In these important activities they should have the stimulation and guidance, whenever needed, of capable, inspiring leaders.

In the second place, the study showed clearly that substantial progress in improving teaching depends to a considerable extent on familiarity with professional literature and the results of scientific studies. At the beginning of the experiment only a limited number of the supervisory officers and teachers were adequately acquainted with such materials. As a step in overcoming this deficiency, some attended school during a summer term and took courses relating to their needs. In many schools professional books on reading and some of the more important related scientific reports were purchased. These were studied carefully either by individual teachers or by the staff as a whole. A series of lectures relating to various important phases of reading was given in all schools. In these lectures both progressive trends and the results of related studies were summarized. Not infrequently groups of teachers or special committees began the study of specific problems, such as the techniques involved in diagnosis and remedial teaching. Before their work had advanced far, it was usually necessary for them to study intensively related scientific literature. In these and other ways many teachers soon gained a wide acquaintance with the facts upon which a valid reading program could be based. Wherever such steps were taken intelligently and pursued vigorously, teachers participated confidently and enthusiastically in efforts to reorganize and improve teaching. What is even more important is the fact that such teachers developed initiative and independence in making significant changes in their teaching. In practically all such cases effort to improve teaching continued long after the investigation was discontinued.

In the third place, the experience gained in the study showed clearly that research of at least two types should accompany most efforts to improve teaching. The first of these involves the study of fundamental problems concerning which little or no scientific evi-

dence is available. For example, when a teacher is attempting to improve the rate of silent reading, what consideration should be given to the fact that a pupil is temperamentally slow or has a slow reaction time? What is the best order in which to introduce the various habits involved in general assimilative reading? Scores of problems of a similar character arise constantly as efforts are made to improve teaching. If immediate action on such issues is necessary, one must accept the judgments of experts and proceed in the hope that these are correct. Sooner or later all such issues should be subjected to scientific inquiry. Some can be studied effectively only under laboratory conditions, but many can be studied to advantage in classrooms. Each school system should establish experimental centers, taught by well-trained teachers, to which such problems may be referred. The second need for research grows out of the fact that many scientific studies deal only with fundamental issues and fail to translate their findings into terms which render the results readily usable by teachers. As a consequence, many types of service research are essential in any genuine effort to improve teaching. For example, in practically every school in which definite progress was made, the more capable teachers engaged in intensive study of specific problems, such as the development of interesting units in the content fields, the analysis and the organization of remedial suggestions relating to specific difficulties, and the preparation of reading exercises of types to promote growth in certain phases of reading. The evidence was conclusive that progress in improving instruction was most rapid in those schools in which teachers continuously engage in service research of one type or another.

The fourth essential in a successful effort to improve teaching is time. As the study progressed, it became clear that much time is required to effect significant changes in teaching. The schools which made the greatest improvement continued their efforts for two or more years after the experiment terminated. In some cases only a limited amount of progress was made during the experimental year. As the teachers recognized with increasing clearness the nature of the changes desired and as they developed confidence and initiative in modifying their teaching procedures, the results of their efforts increased rapidly. Another impressive conclusion was that the best re-

sults are secured when simple and clearly defined problems are attacked one at a time. In the schools in which a broad reorganization of teaching activities was at once undertaken, the teachers often became confused and discouraged. It soon became obvious that in the end the best results would be secured by beginning at the level of present practice and advancing only as rapidly as the teachers could secure a clear grasp of their problems and work out desirable solutions. These findings indicate that for most schools much time and effort will be required to raise instruction in reading to a high level of excellence. In fact, effort to improve the teaching of reading, as well as that of other subjects, must go forward continuously if instruction is to be adapted regularly to changing social needs and is to profit to a maximum from the results of scientific studies.

SUMMARY

The statement may be repeated that the unique function of supervision is the improvement of teaching. The evidence referred to in this article shows the need of capable instructional leadership. A vigorous supervisory policy promotes far more rapid progress in increasing the efficiency of instruction than is otherwise attained. It follows that current efforts to economize by reducing unduly or by eliminating supervision are unwise and detrimental to the best interests of the pupils and of society. These findings are especially timely in view of the fact that schools today face the need of radical readjustments in order to provide more adequately for contemporary social needs. *If needed changes are to be effected, certain conditions* are essential, namely, trained instructional leadership, a competent and professionally-minded staff, continuous study of professional literature and the results of related scientific studies, constructive study of teaching problems including various types of service research, and, finally, adequate time for growth. The demand for continuous improvement of teaching places large responsibilities on school officers and teachers. Only as the problems are attacked enthusiastically and courageously will instruction increase in breadth and excellence.

IMPROVING INSTRUCTION IN ENGLISH MECHANICS IN THE ELEMENTARY SCHOOL

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At least three considerations lend significance to a discussion of the question of how to improve instruction in the mechanics of elementary-school English: First, a large amount of time is devoted to instruction in the mechanics of English usage. Second, a large amount of money is expended on this phase of English instruction. Third, the results are not satisfactory.

The unsatisfactory character of the results of the teaching of the conventions of English usage has been revealed by a number of school surveys. One of the most extensive of these surveys was that conducted by the Ohio State Department of Education (2),¹ which covered Grades III-XII, inclusive, and involved approximately 240,000 pupils. An impartial analysis of the results of this survey reveals a situation which is disappointing. One is appalled to discover that a large percentage of pupils even in Grade VIII and beyond are still unable to detect and correct many of the more common and flagrant errors in the use of the English language. Error-quotient figures for eighth-grade pupils taken from the survey report, which are presented in Table I, give a clear picture of the task ahead.

Error quotients are determined by using frequencies of error as a numerator of a fraction in which the denominator represents the number of chances for error. The fact that the error quotient considers the number of mistakes with relation to the number of opportunities to make mistakes makes it a much more significant and valid measure of the prevalence of error than does a mere count of errors. Table I shows that in only two of the twenty-five usages did the eighth-grade pupils make errors in less than one-half of the chances. In seventeen of the usages errors were made in two-thirds or more

¹ The numbers in parentheses refer to the bibliography appearing at the end of this article. In case of quotations page references are also given.

TABLE I
PREVALENCE OF ERROR AMONG EIGHTH-GRADE PUPILS
IN CERTAIN PHASES OF ENGLISH USAGE*

Usage in Which Error Was Made	Error Quotient
Use of capital letters:	
1. Capital letters for titles used with persons' names . . . .	.52
2. Capital letters for adjectives derived from proper names . . .	.62
3. Capital letters for all important words in a title. . . . .	.66
4. Small letters for the names of the seasons except when they are personified . . . . .	.68
5. Capital letters for names of particular sections of country . . .	.77
Use of punctuation marks:	
6. Comma to separate the parts of a calendar date . . . . .	.51
7. Comma to set off the name of a city from the name of a state. . . . .	.67
8. Quotation marks to inclose a direct quotation. . . . .	.67
9. Apostrophe to denote possession. . . . .	.69
10. Comma or commas to set off name of person addressed . . .	.75
11. Commas to set off appositives and parenthetical expressions . . . . .	.77
12. No quotation marks for an indirect quotation. . . . .	.81
Use of verbs:	
13. Agreement of verb and subject . . . . .	.53
14. Use of past participle with "has," "have," or "had" . . . .	.61
Use of pronouns:	
15. Predicate nominative in the nominative case . . . . .	.40
16. Correct case forms for the subject and the object of a verb . .	.53
17. Object of a preposition in the objective case . . . . .	.68
18. Agreement of pronoun and antecedent. . . . .	.79
19. Avoiding indefinite reference for "it" and "they". . . . .	.96
Use of adjectives and adverbs:	
20. Avoiding the use of "them" for "these" or "those" to modify a noun. . . . .	.31
21. Avoiding the use of adjectives for adverbs and vice versa . .	.79
Grammatical sentence structure:	
22. Avoiding the use of double negatives. . . . .	.71
23. Placing a modifier as close as possible to the word it modifies. . . . .	.88
24. Following correlative conjunctions by sentence elements of equal rank . . . . .	.94
25. Having a sentence containing a participle contain also a noun or a pronoun which the participle definitely modifies . .	.96

* Error-quotient data were taken from the report of the Ohio survey (2).

of the chances; in ten of the usages errors were made in three-fourths or more of the chances; and in three of the usages errors were made in nine-tenths or more of the chances.

Surveys of achievement of graduates of public high schools also show a lamentable lack of mastery of some of the more common principles of English usage which presumably had been learned in the elementary school. Table II contains error-quotient data for a few of the more common usages.

Surveys of achievement in English usage show further that the errors which are the most prevalent in the elementary school tend to be the most persistent throughout the secondary school. Potter and Touton (22) conducted an elaborate experiment with six thousand pupils in which they attempted to determine the decrease in language errors by means of a proofreading test in written composition. Three of their findings are pertinent to this discussion: First, in general, little progress in the elimination of language errors was made throughout the secondary school. Second, few language errors were largely eliminated by the secondary school. Third, most language errors showed a low degree of elimination by the secondary school.

How can improvements be made in the situation depicted in the results of school surveys and investigations of English usage? A survey of the literature bearing on the question yields the following suggestions.

First, the goals of language-arts instruction must be made definite and clear. Much non-learning results from vague and undefined objectives. In the teaching of composition two principal objectives have been recognized: (1) ability to express one's self clearly and forcibly in speech and in writing and (2) ability to observe the canons of good usage. For purposes of teaching and learning, however, the objectives should be thought of in terms of the particular expression activities in which persons normally engage. The goals of oral composition should be stated in terms of such core activities as the following: (1) engaging in conversation; (2) engaging in group discussion; (3) making a formal presentation; (4) engaging in debate; (5) conducting meetings involving parliamentary procedures; (6) story-telling, including the telling of jokes, anecdotes, and

TABLE II
PREVALENCE OF CERTAIN COMMON AND FLAGRANT ERRORS
IN ENGLISH USAGE AMONG HIGH-SCHOOL GRADUATES*

Usage in Which Error Was Made	Error Quotient
Use of capital letters for:	
1. Names of holidays and days of special observance . . . . .	.32
2. Names of groups of persons and organizations. . . . .	.21
3. Words derived from the names of persons . . . . .	.10
4. First word of the complimentary close of a letter. . . . .	.09
5. Names of the days of the week. . . . .	.07
6. Names of the months of the year. . . . .	.04
7. Names of particular places and things. . . . .	.04
8. First word of a sentence. . . . .	.04
Use of punctuation marks:	
9. Apostrophe to denote contraction . . . . .	.32
10. Period after an abbreviation. . . . .	.25
11. Apostrophe to denote possession. . . . .	.23
12. Question mark after a direct question. . . . .	.23
13. Quotation marks to inclose a direct quotation. . . . .	.12
14. Commas to separate words or groups of words used in a series . . . . .	.12
15. Comma to separate the parts of a calendar date. . . . .	.07
16. Comma after the complimentary close of a letter. . . . .	.07
17. Comma to separate the parts of an address . . . . .	.06
18. Period after a simple statement. . . . .	.04
Use of pronouns:	
19. The antecedent of a reference pronoun must be expressed and not inferred or understood. . . . .	.67
20. Reference pronouns like "this," "that," "which," and "it" should be used to refer to a single definite word . . . . .	.48
21. The possessive case is used for a noun or pronoun modifying a gerund. . . . .	.47
22. Pronouns referring to "each," "every," etc., must be singular. . . . .	.35
23. A pronoun must agree in number with its antecedent. . . . .	.12
Use of verbs:	
24. A compound subject made up of two singular nouns joined by "or" or "nor" is followed by a singular verb . . . . .	.32
25. A verb must agree in number with its subject in spite of the number of the nouns which intervene. . . . .	.24
26. The present, past, and past-participle forms of a verb (principal parts) must be carefully distinguished. . . . .	.17
27. The verb of a sentence agrees in number with its subject and not with its predicate noun. . . . .	.11
28. A verb must agree in person with its subject. . . . .	.08

*Error-quotient data were taken from References 6, 8, 9, and 12.

incidents; (7) making talks on special occasions, including making a toast, responding to a toast, making an address of welcome, responding to an address of welcome, introducing a speaker, and making an after-dinner speech. The objectives of written composition should be stated in terms of such functional centers as the following: (1) making personal memorandums; (2) framing petitions, resolutions, constitutions, and the like; (3) writing notices and advertisements; (4) writing telegrams, cablegrams, and radiograms; (5) writing various types of business letters, including letters of application, letters asking for appointments, letters of inquiry, letters making reservations, letters ordering goods, letters of introduction, letters of recommendation, and the like; and (6) writing various types of social letters, such as letters of invitation, letters of acceptance, letters of regret, "thank you" letters, letters of condolence, friendly letters, letters of congratulation, and the like.

After the functional centers have been determined, the various conventions of usage, which society has evolved for the purpose of clearness and accuracy of expression, will need to be identified. The conventions are classified under such major categories as spelling, capitalization, punctuation, grammatical usage, and the like. These major types of usage must be regarded not only as unit abilities but also as composites of many specific elements. Punctuation, for example, is not merely a matter of full stops, stops within the sentence, and special marks. It is also a matter of different kinds of full stops, such as the period, the question mark, and the exclamation point; different kinds of stops within the sentence, such as the comma, the semicolon, the colon, and the dash; and different kinds of special marks, such as the apostrophe and quotation marks. Moreover, the same mark often serves different functions in different situations. The comma, for example, serves one purpose in separating words used in a series and quite a different function in separating the parts of an address. This specific character of the form side of expression holds just as true in other fields as in punctuation. Capitalization involves a score or more of particularized abilities; verb usage turns out to be a matter of using correctly many verbs in their various tense and number forms; and mastery of pronouns involves ability to manage many pronouns in their gender, person, number, and case relations.

Second, the objectives need to be allocated to appropriate grade levels. In the grade placement of objectives the language usages and difficulties of pupils of various levels of maturity should be made a matter of serious concern. Moreover, consideration should be given to the maturity of language capacity. It is probable that school failures may be caused in no considerable degree by premature placement of instructional objectives. In fact, investigations show that school success bears a very direct relation to pupil readiness in terms of mental maturity. Morphett and Washburne have reported experimental evidence which justifies their statement that "by postponing the teaching of reading until children reach a mental level of six and a half years, teachers can greatly decrease the chances of failure and discouragement and can correspondingly increase their efficiency" (20: 503). As the result of another investigation, Washburne (26) has concluded on the basis of research findings that the teaching of many arithmetical topics and processes should be postponed to grade levels later than those in which they are now commonly found. Other studies (4, 5, 7, 15) seem to indicate that, if results are to be attained with economy and efficiency, instruction in certain English usages will need to be postponed to grades later than those in which it is now given. In the determination of the specifics of language instruction and in their grade placement, the investigations of Stormzand and O'Shea (24) and others (19) will be found helpful.

Third, recognition should be given to the fact that different types of objectives imply different types of teaching techniques. Composition, interpreted in terms of the organization of ideas for effective presentation, requires a language-arts type of teaching technique; spelling may be classified under the pure practice type; and grammar belongs to the science type. Probably one of the chief causes of pupil failure lies in the failure of the teacher to employ a type of teaching technique which is appropriate to the type of learning product to be attained. Morrison insists that each type of teaching "stands for a form of learning, and consequently for a teaching procedure which is appropriate to the specific objectives within the type and to no others" (21: 99).

Fourth, if training in English composition is to be effective, learn-

ing must take place in normal rather than in "make-believe" situations. Acceptance of this point of view leads to important implications. One implication is that the curriculum should be organized in terms of expressional situations, as was suggested in earlier pages of this article. Some of the most progressive courses of study are being organized around so-called "functional centers" of expression, as suggested by Johnson (17: 16-39). Another implication is that training in effective discourse should be regarded not as the responsibility of the English teacher alone but as the joint responsibility of teachers in all grades and in all departments. Leaders in the field of the teaching of English are convinced that clear and forcible expression is the product of one's total education; hence, they insist on abandonment of the delusion that training in English classes can contribute significantly to the development of ability to use discourse effectively. On the other hand, the leaders feel that any subject or activity which contributes ideas and experiences on a level with developing childhood makes its positive contribution in the inculcation of the qualities of clearness and force in speech and in writing. From this standpoint, any encouragement which the teacher may give in her endeavor to have the pupil expound a point until its meaning is perfectly clear finds ample justification. A third implication is that teachers of all subjects should be trained to the point where they themselves are both willing and able to use clear, accurate, and convincing discourse. Moreover, they should avail themselves of opportunities for bringing children into contact with reading materials that reflect the essential characteristics of good English expression. Children need frequent exposure to clear and forceful expression, both oral and written. The best incentive to the use of good English, as well as the best corrective for poor English, is a generous supply of positive images. Halleck was right when he said that the best teacher of English is the teacher who continually bombards the ears of the children with the best kind of English.

Fifth, training in the mechanics of English should not be relied on to transfer from one usage to another in any significant degree. Evidence on this point is available in the results of a number of investigations already referred to (3, 4, 5, 7, 15). In one of these studies (3) it was found that all the members of a group of thirty-

nine college Freshmen were able to use a comma to set off an adverb used independently but that twenty-two of the same Freshmen were unable to use a comma to separate words used in a series and seventeen were unable to use the same mark to set off a slightly parenthetical or inserted expression. All the Freshmen were able to use quotation marks to inclose a direct quotation. On the other hand, eleven were unable to use the same marks to inclose the title of a theme, story, or song, and twenty-five failed to use these marks to call attention to words used with special meanings. The evidence on the transfer value of training is just as striking in usage other than punctuation. Students who were unable to capitalize the names of educational and business institutions and words derived from the names of cities were found to experience no trouble with such closely related usages as capitalizing the names of social-betterment organizations and words derived from the names of persons. Students who encountered no difficulty in using correctly "see," "sit," and other verbs failed in the correct use of "run," "lie," "has," "break," and "to be."

Sixth, pupils should be held responsible at all times for the use of the best English which they are capable of using. This responsibility should cover both the use of clear and forcible expression and the observance of correct form. Adaptations are formed through reactions; hence, there should be an insistence on right reactions. To stimulate pupils to accept responsibility for good English usage, various measures may be employed. One means consists in requiring the more capable pupils to criticize their own performances. The evidence seems to indicate that capable pupils may be able to criticize their own papers for language errors fully as well as their teachers (18). Another incentive consists in the commendatory criticism of the teacher and fellow-pupils. Another source of motivation is the assurance of progress. "Nothing succeeds like success," runs the old adage. Teachers may make use of this source of motivation by having each pupil keep a portfolio of all his written work. By having access to the portfolio, the pupil can make comparisons of his later with his earlier work and thus receive the stimulation which comes from the knowledge that one is succeeding. Probably the most powerful incentive for stimulating pupils to accept responsibility for the use of

good English consists in basing the English mark on expression performance outside the English classroom.

Seventh, individualized instruction should supplant mass instruction. Analytical studies of errors (6, 8, 9, 12) show that students manifest marked individuality in the types of errors which they make. In a test in punctuation given to 640 college Freshmen (8), for example, ten students made the same score; yet they showed marked variations in the nature and the extent of their difficulties. One of the ten students encountered difficulty with five usages, while another manifested weakness in thirteen usages. Two of the ten students made the same number of type errors, but only four of the ten types of error were made by both.

The superiority of instruction adapted to individual needs over conventional group procedure has been demonstrated in a number of experiments. Shepherd has produced evidence which shows the advantages of the individual method in terms of the carry-over effects of the instruction in the writing of classes other than English and in terms of the hold-over effects after lapses of time (23). An experiment in grammatical usage with ninth- and tenth-grade pupils showed that individual instruction was much more effective than mass instruction in the remediation of pupil shortcomings (25). Similar results were found in an experiment in capitalization (1).

Eighth, remedial instruction should be undertaken whenever the circumstances justify it. Investigations show that deficiencies in background training are much more prevalent than is generally recognized (2). Experiments in learning both in public schools (4, 5, 7, 15) and in colleges (10, 11, 13, 14) show that marked improvement in the mechanics of written expression may be expected within a comparatively short time from a remedial program which first discovers the usages which are difficult for the group and for individuals and then provides self-teaching and practice material of types definitely suited to individual needs. Studies show, moreover, that, when these conditions are met, a great deal of permanency in learning may be expected to accrue from a program of remediation (16).

In the organization of a remedial program the following steps of administrative procedure should be observed. (1) preliminary testing, (2) individualized remedial instruction, and (3) retesting. The

first step should consist in giving (1) a survey test to discover the pupils who are weak in the unit measured and (2) a diagnostic test to identify specific weaknesses. The second step should consist in teaching and practice to overcome learning difficulties. Deficiencies which are revealed by the diagnostic test become points of departure in the follow-up work. This phase of the remedial program should be organized as individualized group instruction. In the case of difficulties encountered by a majority of the pupils, group instruction should be employed. When only a limited number of pupils experience a given difficulty, instruction should be organized on an individual basis. Individualization of the remedial work should be made possible by means of teaching and practice materials so organized that each pupil can get self-teaching and practice on the items which give him difficulty. The final step in the remedial program should consist in retesting in order to measure improvement and to identify difficulties of pupils who have not mastered the learning unit.

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HOME-ROOM SUBJECTS IN PLATOON SCHOOLS*

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The relative efficiency of platoon and non-platoon schools may be considered from the standpoints of enrichment of curriculum experiences, cost and building economies, attendance, pupil progress, and achievements in the common school subjects. This study is limited to the last of these topics.

The expansion of the elementary-school curriculum has been especially marked in platoon schools. The general effect has been to reduce the time given to the so-called "fundamental" subjects. These subjects include reading, spelling, writing, language, and arithmetic (often referred to as "tool" subjects), and history and geography (or the social sciences). Common practice has placed these subjects, with the occasional exception of writing and the social sciences, in the home room of platoon schools. These conditions have given rise to the question: Are home-room subjects as effectively taught in platoon schools as in non-platoon schools?

Investigations seeking solution of the problem have been made in more than fifteen cities where the two types of schools have been available for comparison. Standardized tests, classroom examinations, and other measures have been used to determine relative efficiency. This study brings together the results of these investigations. The aim is to determine the extent of agreement in the results and the degree of finality with which the question has been solved.

All investigations made available to the writer have been briefly summarized. The principal studies come from thirteen cities. Each investigation was carefully checked to determine the number of comparisons in each subject and in each grade, or comparisons of a general nature, in which the work in platoon schools was found superior, inferior, or equal to that in non-platoon schools. The method as-

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sumes that more than one-half of all comparisons made must be favorable to platoon schools before any material advantage over non-platoon schools is evident.

1. *New York City, 1917*.—After the annual examinations in the Bronx schools in 1917, the averages of marks made by pupils in arithmetic and English in all grades were tabulated and compared with like marks for the preceding year. The results in nine "duplicate schools" (the name given in New York City to platoon schools), eight of which were in the first year of reorganization, and the results in twenty regular schools were then tabulated separately. The net gain in number of points for the duplicate schools was 25.7 and for regular schools 3.4. The gains were chiefly in etymology. In arithmetic the results were slightly unfavorable to the duplicate schools (20: 19).¹

The uniform eighth-grade graduation test given in January, 1917, to all schools in the Bronx included arithmetic, spelling, composition, reading, grammar, history, and geography. On the basis of the total number of points scored, eight first-year duplicate schools were 2.5 per cent better than sixteen regular schools. The pupils of the duplicate schools made higher average marks than pupils in the regular schools in arithmetic, spelling, and composition, but slightly lower marks in other subjects (20: 16).

2. *Detroit, 1920-23*.—During the period when the reported investigations in Detroit were made, more time was allotted to the fundamental subjects in platoon schools than in non-platoon schools. In Grades I, II, and III, 200 minutes more a week were devoted to these subjects in the platoon schools; in Grade IV, 120 minutes more; in Grade V, 30 minutes less; and in Grades VI-VIII, an equal number of minutes in the two types of schools. During the same period standardized tests were given twice each semester as a part of the regular school work. From tests given at the end of semesters, medians for various groups of schools and for the city as a whole were determined for each grade in each of several subjects. The numbers of grade medians in platoon schools which were above and below the corresponding city medians were then reduced to percentages as a

¹ The numbers in parentheses refer to the bibliography appearing at the end of this article.

basis for comparison. When more than one-half the medians for a group exceeded the city median, the comparison was regarded as favorable to the platoon group (18: 174).

By June, 1923, eight semester tests had been given in spelling, writing, arithmetic, and geography, and four tests had been given in reading. Fifteen platoon schools were chosen for comparison with the non-platoon schools in the city. In the consolidated results for a period of four years the percentages of comparisons favorable to the platoon schools were: in reading, 45; in arithmetic, 54; in spelling, 56; in geography, 66; and in penmanship, 79. The results were not uniform within the period for each subject. In the thirty-six semester tests the platoon-school medians were below the city medians in four tests, the same as the city medians in seven tests, and above the city medians in twenty-five tests. The four medians below the city medians occurred in reading at the fifth (45 per cent) and eighth (31 per cent) testing periods, in arithmetic at the fourth, and in geography at the third. In spite of these exceptions, the consolidated data give the platoon schools "marked superiority" over the non-platoon schools for every semester from January, 1920, to June, 1923 (18: 179).

In June, 1922, the fifteen platoon schools were divided into two groups, a group of six schools which had been organized as platoon schools for four years and a group of nine schools which had been platoon schools for three years. Semester grade medians for each group were compared with corresponding medians for the city non-platoon schools. The grade medians in reading, spelling, and geography for the three groups of schools were approximately the same. In penmanship the platoon-school medians were somewhat higher. In arithmetic the results were inconsistent, but, in general, medians for the four-year schools were above, and for the three-year schools somewhat below, the city medians (18: 171).

The semester examinations given in June, 1922, were used for a second comparison. The data in five subjects for the group of four-year platoon schools were consolidated. The same consolidation was made for the group of three-year platoon schools, and data for a third group of schools which had been organized as platoon schools for one and two years (some had been organized for even less than one year)

were secured. Only 29 per cent of the comparisons were favorable to the most recently organized platoon schools, 55 per cent to the three-year schools, and 78 per cent to the four-year schools. These results point to the conclusion that reorganization may slightly reduce the efficiency of instruction for a time but that, after a period is allowed for readjustment, efficiency increases rapidly (18: 182).

In March, 1923, two groups of platoon schools were formed to determine the effect of reorganization on learning in the fundamental subjects. In one group there were fourteen schools which had been operating on the platoon plan for at least two years. The second group included ten schools which had been operating on the platoon plan for three or more years. As many class medians as possible for the periods before and after reorganization were secured and were reduced to percentages. The number of classes in spelling, writing, arithmetic, and geography ranged from 242 to 1,166. The ratio in the number of classes compared before and after reorganization was approximately three to one for the two-year schools and one to three for the three-year schools. The percentages of comparisons favorable to the platoon organization increased after reorganization from 38 to 44 in arithmetic, from 48 to 62 in penmanship, from 42 to 51 in spelling, and from 42 to 52 in geography. For the two-year schools the percentages dropped from 58 to 50 in arithmetic, increased from 44 to 48 in penmanship, increased from 49 to 52 in spelling, and dropped from 54 to 43 in geography. The percentage of three-year schools with medians above the city median was smaller than the corresponding percentage of two-year schools, but the gains were greater. These results support the conclusion that efficiency in learning increases more rapidly after platoon schools have been organized three or more years (18: 185-86).

In January, 1922, a similar study was made with six platoon schools which had been organized for two years and eight platoon schools which had been organized for only one year. In writing, the two-year schools were above the city medians in every grade, while the one-year schools were below in all grades except the eighth. In spelling, arithmetic, and geography the two-year schools were superior in all grades (19: 65-66).

Most of the Detroit studies appear to have been made without

eliminating any of the factors which may have influenced results. Such factors as special attention to supervision, effectiveness of instruction, and possible selection, aside from the organization, may favorably affect the data secured. Since tests were given twice each semester, it was possible to choose classes for study in platoon and non-platoon schools with the same initial ability. Such selection was made in the case of the six two-year-old and eight one-year-old platoon schools, with the result that the older schools were 2.8 per cent above the city median and the newer schools only 0.8 per cent above. In spelling the efficiency of teaching in the platoon schools which had been organized for two years was 10 per cent higher than the efficiency of the regular schools, and the efficiency of the teaching in the platoon schools which had been organized one year was 2 per cent higher than that of the regular group (19: 60). When the factor of possible selection was eliminated, it was found that the platoon schools were making somewhat higher scores than the city schools in general, especially the older platoon schools (19: 59).

3. *Kansas City, 1923*.—Results on standardized tests in five subjects in Grades III–VII of the Irving School, a platoon school, were compared with Kansas City medians. In arithmetic the Irving School as a whole was above the city average, but in Grades IV and VII the Irving School was below the corresponding city medians. In spelling the Irving averages were above the city averages except in Grades V and VI. In speed of writing the Irving average was higher in every grade, and in quality of writing it was up to normal. The language-error test was favorable to Irving School, but the history test was slightly unfavorable. The data for all subjects combined showed that in the fundamental subjects the work was done as efficiently in the platoon school as in the city schools in general (13: 544).

In comparisons secured for the Henry C. Kumpf School, of Kansas City, before and after the platoon organization had been inaugurated, the results in the tool subjects, as indicated by standard tests, proved to be much superior following the adoption of the plan (7: 9).

4. *Seattle, 1921*.—Seattle has three types of elementary schools, namely, academic, duplicate, and industrial. Standardized tests

were given to 324 pupils completing Grade VIII. School accomplishments in age levels for reading and arithmetic were as shown in Table I. The pupils in the duplicate schools made "far greater" accomplishment than the pupils in other schools, and they were also promoted more rapidly. "In the total score upon a directly comparative basis the duplicate schools lead with a gain of 1.51 years" (1: 82-83). The academic schools had a comparative loss of .58 of a year and the industrial schools a loss of .62 of a year.

TABLE I
COMPARISON OF THREE TYPES OF ELEMENTARY
SCHOOLS IN SEATTLE*

	TYPE OF SCHOOL		
	Duplicate	Academic	Industrial
Number of schools	4	6	6
Number of pupils	93	94	137
Average mental age	15.03	14.81	15.16
Age level:			
Reading	16.39	15.62	15.81
Arithmetic	15.30	14.23	14.28

* Adapted from Tables 32 and 34 (1: 79, 82).

5. *Birmingham, 1924.*—At the time of the Birmingham study the city had fifteen platoon schools, thirteen of which had been organized only two years. Two equal groups of pupils in Grades IV-VIII were selected from several platoon and non-platoon schools. The groups were equivalent in ability to learn and in amount of learning, as shown by initial tests, by intellectual maturity, and by number of days of attendance during the period from December to May. Tests were given to measure the amount of learning within this period. The percentages of excess number of points made by the average platoon pupil over that made by the average non-platoon pupil were as follows: reading, 33.9; arithmetic, 50.1; history, 42.7; science, 0.3; spelling, 14; language, -24; all subjects, 29.5. The results were not uniform, and the cause of a large negative result in language was not known. On the whole, the platoon pupil made a gain of 66 points, while the non-platoon pupil gained 51 points—a difference of 29.4 per cent in favor of the platoon schools (14: 6).

6. *St. Paul, 1924.*—Standardized tests in four subjects in Grades III-VIII were used in St. Paul in a comparative study of fifteen platoon schools and all the schools in the city. Ten of the platoon schools had been organized for at least three years. In spelling the platoon-school curve was far above the city curve—a result which may be explained in part by the use of the Ayres list of words for basic drills. While this list represented special training, a later test involving a wider vocabulary showed reasonable but not unusual results. In reading, the curve for the platoon schools was slightly above that of the city. In arithmetic the platoon-school curve dropped below the city curve in Grades IV and V. In language the platoon-school curve was above the city curve in all grades. The general curve in each subject and in three-fourths of the grades gave a clear advantage to platoon schools (11: 439).

7. *Pittsburgh.*—City-wide surveys were made in 1924, using tests in reading, arithmetic, and spelling. In October the results in Grades III-VIII in forty-seven platoon schools were compared with the city's non-platoon schools. The excesses of the averages of the scores of the platoon schools over those of the non-platoon schools in the various tests were as follows: spelling, 0.22; rate of reading, 4.96; comprehension in reading, 0.71; accuracy in arithmetic, 0.09; speed in arithmetic, 0.01; correct reasoning in arithmetic, 0.53; all grades and subjects, 7.06. This city evidently is making adequate provision for the tool subjects. The so-called "fundamentals" do not suffer by reason of enrichment (6: 37).

An arithmetic survey made in Pittsburgh compared results in seven platoon schools, which had been organized four or more years, with results in non-platoon schools. The number of pupils in the non-platoon schools was seven times the number in the platoon schools. Seventeen and nine-tenths per cent of the platoon pupils and 8.5 per cent of the non-platoon pupils were colored. In both arithmetical accuracy and correct reasoning the platoon-school pupils were superior, except in Grades III and IV, where they were slightly below in the accuracy test. The platoon-school pupils did better work in subtraction, multiplication, and division than did the non-platoon pupils, but not such good work in addition (10: 29-37).

An extensive reading survey was made in Pittsburgh in January,

1927. This survey included Grades II-VI in fifty-nine platoon schools and sixty-nine non-platoon schools. There was a slight advantage in favor of the non-platoon schools in Grades I-IV B and in Grade V A. In Grades IV A, V B, and VI the platoon schools were slightly in the lead. The differences were not appreciable, and reading had not suffered by enrichment (8: 9-14).

8. *Cleveland, 1924.*—Four new platoon schools were paired immediately upon their organization with four non-platoon schools with respect to size, composition of population, educative value of pupil activity, quality of teaching, and length of school day (five hours). The eight schools were then studied during the school year to determine the relative efficiency and economy of the two plans of organization. In October and May standardized tests in reading, arithmetic, elementary science, history, language, and spelling were given in Grades IV-VI, inclusive. A group intelligence test was given in October. The report contains no analyzed data for separate grades and subjects. General achievement in the subjects was greater, by a small margin, in the non-platoon schools. Factors affecting results appear to have been newness of organization and reduction of time given to the fundamental subjects. Exceptions favorable to the platoon school occurred in one pair of schools in all grades and in the fifth-grade averages in all schools (5: 37).

9. *Tyler, Texas, 1923.*—Two platoon schools were organized in Tyler in 1923 and one in 1924. Tests were given in comprehension and rate of reading in Grades IV, V, and VI in January, 1924, and again in January, 1926. The results for platoon and non-platoon schools were then studied separately. The test scores in reading comprehension for platoon schools were the same as, or slightly higher than, those for non-platoon schools at both test periods. The test scores in rate of reading in Grades IV and V favored non-platoon schools at the first testing period, but two years later all scores in rate of reading favored platoon schools (4: 127). The findings were the same as those in Detroit in that the results in the platoon schools improved with length of time after reorganization.

10. *Long Beach, 1926.*—Third-grade pupils were tested in arithmetic, reading, and language, and the results from the two types of schools were compared. The platoon-school medians were uniformly

and significantly higher than the non-platoon-school medians, but differences between classes in Grade III B were greater than the differences between classes in Grade III A (2).

11. *Pueblo, 1927.*—The third year after the platoon organization became effective in Pueblo, Colorado, tests in reading, arithmetic, and spelling were given in Grades III–VI, inclusive, for the purpose of comparing results in platoon schools with those in non-platoon schools. In each grade and in each subject the medians of the platoon schools were above the medians of the non-platoon schools. The amounts of difference between the medians for the four grades averaged: in arithmetic, 10.2 per cent; in reading, 8.6 per cent; and in spelling, 7.6 per cent. These comparisons reveal definitely the superiority of achievement on the part of platoon pupils (15: 19–21).

12. *Portland, Oregon, 1929.*—Standardized tests were given in platoon and in traditional schools, and the results were compared with the relative amounts of time allotted weekly to each of six subjects. Much more time was allotted to the fundamental subjects in the traditional schools than in the platoon schools. Six and six-tenths per cent more time was given to reading, 74.3 per cent to spelling, 18.3 per cent to arithmetic, 2.5 per cent to language, 22.3 per cent to geography, and 44.3 per cent to history. The corresponding differences in test scores were: in reading, 0.03 per cent; in spelling, -0.1 per cent; in arithmetic, 1.2 per cent; in language, 1.5 per cent; in geography, 0.5 per cent; and in history, -0.4 per cent. While these subjects were allotted 17 per cent more time in traditional schools than in platoon schools, there was little difference in the results accomplished in the two types of schools. The basic skills were not suffering in platoon schools, although the amount of time given to them in these schools was much less than that in traditional schools (12).

13. *Salt Lake City, 1932.*—Standardized tests were given in reading to 3,356 platoon pupils and 1,925 non-platoon pupils in Grades IV B and V B. The sigma index reading mean for the two grades in platoon schools was 100.2 and in non-platoon schools, 93.7. The difference in favor of platoon schools is significant. It may have been augmented by the facts that the platoon-school pupils were 2 2 months older and that their reading age was 7.4 months in their

favor (23). In previous studies (1928-30) the results of scholarship tests used in both types of schools placed platoon schools in Salt Lake City somewhat in the lead (22: 123).

All comparisons available from investigations in the thirteen cities are brought together in Table II. The table shows the total number of comparisons in each subject and in each grade and the

TABLE II
COMPARISONS MADE IN STUDIES OF WORK DONE IN
PLATOON AND NON-PLATOON SCHOOLS
IN THIRTEEN CITIES

SUBJECT AND GRADE	NUMBER OF COMPARISONS	COMPARISONS FAVORABLE TO PLATOON SCHOOLS	
		Number	Per Cent
Subject:			
Reading	20	12	60
Spelling	25	18	72
Writing	16	14	88
Arithmetic	29	22	76
Social sciences	20	13	65
Other subjects	15	10	67
All subjects	125	89	71
Grade:			
III	22	16	73
IV	35	20	57
V	37	27	73
VI	38	24	63
VII	26	18	69
VIII	30	20	67
All grades	188	125	66

number and the percentage of comparisons favorable to platoon schools. Seven-tenths of the subject comparisons and two-thirds of the grade comparisons were favorable to platoon schools. In addition, in 10 per cent of the comparisons by subjects and in 7 per cent of those by grades, platoon schools were equal to non-platoon schools. In 19 per cent of the comparisons by subjects and in 27 per cent of those by grades, non-platoon schools were superior. These data lead to the conclusion that the country over children in platoon schools do better work in the common school subjects than do chil-

dren in non-platoon schools. There are no great variations among grades or subjects in the percentages of comparisons favorable to platoon schools. The highest percentage is in writing; the lowest, in reading. The results here are affected by the data from Detroit, where all but two of the comparisons in writing were made and relatively few of those in reading. Most of the unfavorable comparisons in the social sciences were found outside Detroit.

The comparisons in writing were favorable to the platoon schools in every grade, and the comparisons in spelling favored these schools in Grades III-V. Unfavorable comparisons occurred in Grades III and IV in arithmetic. In the upper grades reading apparently is taught no better in platoon schools than in non-platoon schools.

Most of the investigations were made with all factors operating. Equating the groups studied by eliminating certain factors appears to have been done in only three of the cities. In some studies in Detroit platoon schools were grouped according to the length of time they had been organized, and results favored the older platoon schools. When comparisons of the same schools before and after the inauguration of the platoon organization were made, the results favored the platoon organization. In Birmingham equated groups were studied, and results were favorable to platoon schools in all subjects except language. In Cleveland when a platoon school was organized, it was immediately paired with a non-platoon school. In only one of four pairs studied were the results generally favorable to the platoon organization. Except in these few studies, no adequate evaluation has been made of instruction in platoon schools. More controlled investigations with factors adequately equated are needed.

The results of several tests were not available to the writer except in the form of brief references. In 1924 platoon pupils in Akron did considerably better work in arithmetic and spelling than did non-platoon pupils (17: 418). Similar results in all subjects in Grades V-VII were found at Dayton, Ohio (3: 250-51), and in arithmetic, reading, writing, and spelling at Walterboro, South Carolina (32: 52). At La Grange, Illinois, the pupils of the platoon school made slightly higher scores on standardized tests than did the children in other schools (27: 41).

A number of comparisons, perhaps not so reliable as those already reviewed, have been made between the platoon schools of a city and schools in other systems. In the Irving School of Kansas City, where the average number of minutes a week given to seven "fundamental" subjects in Grades III-VII exceeded by 147.8 minutes the average time given these subjects in other cities, the pupils made scores up to normal or only slightly better (13: 546). Portland's platoon schools gave more time to six "fundamental" subjects in Grades I-VI than was given by forty-nine cities and thirty-three training schools, with relatively small compensation in the results accomplished (12). Irvington, New Jersey, where all elementary schools operate on the platoon plan, led the state in achievement in arithmetic and geography and ranked third in spelling, writing, and history, as shown by state-wide efficiency tests administered to pupils of Grades VII and VIII in June, 1926 (31). Gary has had platoon schools for more than twenty-five years. In the city school survey of 1918 the children of Gary were found to write more freely but with less attention to the quality of work, to spell less accurately, to read more slowly and with slightly more errors in oral reading than children elsewhere and to do about as well in silent reading but less well in arithmetic (9: 90-102).

Studies of failures and promotions in the two types of schools have also been made. Such studies are indicative of the relative efficiency of the two types of schools in instruction in home-room subjects, since these are the grade-promotion subjects. In Detroit in a study covering four years, less retardation and a smaller percentage of failures were found in platoon schools than in non-platoon schools (18: 188). Pueblo reduced its percentage of failures from 11 before platoon schools were organized to 4.9 in two years after their organization, but this percentage increased to 7 in the two succeeding years (15: 19). In Birmingham platoon children were promoted more frequently and more regularly than non-platoon children (14: 27). In Seattle the pupils in duplicate schools were promoted more rapidly and more frequently than the pupils in other types of schools (1: 82). During a period of six years the Blaine duplicate school in Philadelphia promoted from 4.7 per cent to 5.6 per cent more pupils in proportion to enrolment than did the schools in the

city as a whole (30: 570). Belton, Texas, had a higher percentage of promotions by grades each year in the first three years of platoon organization. The percentage increased from 62.4 to 71.6 and later to 76.9 (26: 68). In Providence, Rhode Island, the platoon schools have had a low percentage of failures both in comparison with other similar schools and in comparison with themselves before the adoption of the plan (33: 234). While a lower percentage of failures and a higher percentage of promotions may not invariably result from the platoon organization, as was the case in an eighteen-month trial of the plan at Benton Harbor, Michigan (28: 115), the weight of evidence here appears to be altogether favorable to the platoon plan.

There is, of course, the contention that special subjects are just as fundamental to a well-rounded education as are the home-room subjects. For a complete evaluation of the two forms of organization, all subjects and activities must be included. The platoon plan maintains its ranking position in the fundamental subjects. The addition of special subjects and a great variety of special activities is another strong point in its favor. In auditorium, art, literature, music, and the library the platoon school's contribution to the pupil's life is "tremendously greater." Twenty-six heads of schools regard the discovery of special abilities of major importance, together with the better educational results usually secured in platoon schools (29: 27).

There is a growing conviction that the platoon organization, properly conducted, will do more to develop desirable traits of character than will the traditional organization. In a study of the results of citizenship-training in platoon schools as compared with those in traditional schools, it was found that in five character traits platoon pupils excelled non-platoon pupils by large margins, that in two traits the platoon pupils excelled the non-platoon pupils by small margins, and that the pupils in traditional schools excelled those in the platoon schools in only one quality (21: 88).

The Irving School of Kansas City kept individual records of pupil activities for several years. Teachers critically evaluated the leadership qualities of each pupil in the upper classes. The percentage of pupils possessing marked ability in leadership increased from 9.5 in

the first year during which the platoon plan was used to 24.8 in the fourth year and 37.3 in the fifth year (13: 547).

The results cited naturally lead to an additional question: How do high-school pupils trained in platoon schools compare with those trained in traditional schools? Some school systems report that "pupils coming from elementary schools organized on the platoon plan adjust more quickly to the more complex life of the junior and senior high schools than do pupils coming from the traditional elementary school" (24: 119-20). The junior high school teachers of Austin, Texas, found that such pupils have more initiative and self-reliance, more ability to think for themselves, greater ability to organize and assimilate material from many sources than pupils completing the sixth grade in traditional schools (25: 164).

Measurements of the learning product in the fundamental subjects clearly uphold the platoon organization. The contributions made by special activities most surely indorse the plan. It is beginning to appear that platoon-trained pupils develop abilities invaluable to them as enlightened citizens and capable leaders.

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MEASURING TEACHER CONDUCT OF CLASS DISCUSSION

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This article gives a report of a pioneer effort to devise an instrument for measuring teacher conduct of class discussion. A similar instrument for measuring pupil participation in discussion has been devised and reported.¹ Progress in devising new instruments for measuring the sociological aspects of the educative process has received a new impetus in recent years. The controlled-observation technique has been employed increasingly for analysis and description of certain areas of social behavior. This observational technique was developed principally by Olson,² Goodenough,³ and Thomas.⁴ The advantages of this technique are that it is a direct method of sampling behavior in actual classroom situations without disturbing the usual activities of pupils and that the reliability and the validity of the data can be determined by conventional statistical formulas. Goodenough gives the following summary of this technique.

Briefly stated, this [technique] consists simply in the observation of the everyday behavior of an individual or a group of individuals for definite short periods of time and the recording of the occurrence or non-occurrence of certain specified and objectively defined forms of behavior during each of these periods. The number of periods in which the report is positive for a given individual is then treated as his score. Since the number and length of the observational periods are the same for all individuals, a direct comparison of the frequencies or scores is thus made possible. A further requirement is that all individuals be observed under similar conditions, either during the performance of similar

¹ J. Wayne Wrightstone, "Analyzing and Measuring Democracy in the Classroom," *Nation's Schools*, XI (May, 1933), 31-35.

² Willard C. Olson, *The Measurement of Nervous Habits in Normal Children*. Minneapolis, Minnesota: University of Minnesota Press, 1929.

³ Florence L. Goodenough, "Measuring Behavior Traits by Means of Repeated Short Samples," *Journal of Juvenile Research*, XII (September-December, 1928), 230-35.

⁴ Dorothy Swaine Thomas and Associates, *Some New Techniques for Studying Social Behavior*. Child Development Monographs, No. 1. New York: Teachers College, Columbia University, 1929.

activities or when variation in activity is brought about only through the free choice of the subject himself.¹

It was to the controlled observation technique that I turned when I was faced with the need for developing an instrument to measure teacher stimulation and response in class discussions. An outline of the steps used in defining the categories of behavior to be observed is as follows: First, I visited a number of classroom situations in which discussions and recitations were being used. For a period of three or four days I made sets of running notes, or diaries, of overt stimuli and responses of teachers in their conduct of class discussion. These notes were then studied and organized into categories of defined types of teacher behavior. The defined categories were organized into a tentative code, and the code was applied to several situations to see how well it functioned in practice. The code was later revised in the light of experiences gained in its application. Second, the code evolved for measuring teacher conduct of class discussion was used for directed, or controlled, observations. Under my personal supervision several observers memorized and applied the code in classroom situations until they had attained skill in its use.

The following code was used for observing a teacher's conduct of a class discussion.

CODE 5 TEACHER CONDUCT OF CLASS DISCUSSIONS

Directions for use.—This code is to be used to denote teacher responses and stimulations arising from the interaction of class or individual pupil personalities with the teacher personality. The activities of the teacher, as they are defined in this code, are to be entered against the name of the pupil who manifestly causes the teacher response or who is the particular recipient of teacher stimulation. If the class group is the recipient of teacher stimulation or response, such activities should be coded in a separate row and that row designated "Class" on the observational record.

Allows pupil to make a voluntary contribution (5a).—Enter the code 5a against the name of any pupil whom the teacher, or leader of discussion, allows to volunteer a contribution to the discussion. Regardless of the stimulation that elicits the pupil response or the correctness of response, if the pupil has volunteered a contribution and is allowed to make it, he should receive a code for each such specific contribution he makes during the periods of observation.

Encourages pupil to make a contribution (5b).—Enter the code 5b against the name of any pupil whom the teacher, or leader of discussion, encourages to

¹ Florence L. Goodenough, *op. cit.*, pp. 230-31.

make a contribution to the discussion. The teacher may encourage a pupil by naming him, pointing to him, or otherwise designating him. He should receive a code for each specific time he is encouraged during observational periods.

Proposes a question or thesis for pupil or class (5c).—This type of teacher activity is entered in code in a manner as are previous pupil-teacher interactions. The teacher definitely proposes a question or statement for the reaction of a particular pupil or the class.

Refers pupil or pupils to sources of data or information (5d).—Enter in code the same as previous items. This item may be defined as referring of a pupil to any sources of information or data.

Suggests (explains) means, method, activity, or solution (5e).—Enter in code the same as previous items. It may be defined as teacher suggestion of means, methods, activities, or solutions of a problem or situation. This teacher conduct is often stimulated by pupil questions or statements.

Discourages or prohibits a pupil contribution (5f).—Enter in code the same as previous items against particular pupil.

Recalls pupil's attention by direct word, look, or gesture (5g).—Enter in code the same as previous items against particular pupil.

Assignment by teacher of specific subject matter or tasks (5h).—Enter in code the same as previous items against particular pupil.

Question and answer on assigned textbook subject matter (5i).—Enter in code the same as previous items against particular pupil. This code is used when the recitation is definitely a question and answer on assigned textbook matter. If the response of the pupil is stimulated by a question on assigned textbook matter, code the stimulation *5i*, disregarding whether the pupil volunteers or is encouraged to make a contribution. Apply code *5i* only to such situations

Administration of the code.—The observer sits in a part of the classroom where his presence is as inconspicuous as possible but where he can see and hear clearly the recitation or discussion. He may easily identify the names of pupils from a seating chart arranged for his convenience. If the names of the pupils are entered in alphabetical order on a standard form, entries of codes are quickly and efficiently made. The accompanying form is suggested.

Scoring of the code.—Each stimulation or response of the teacher as it reflects an interaction of pupil-teacher conduct is counted as one point. Hence, each defined unit of conduct is represented by a code, and a code entry is made each time such behavior occurs during a period of observation. The total number of codes which appear for a given pupil is regarded as his score. If direct comparisons of scores are wished, the number and the length of the observational periods should be the same for all individuals. Furthermore, the scores for

each pupil or for each group may be expressed in terms of the frequency for each code item, or the scores may be expressed in terms of a total of all items.

Accuracy of observations.—Probably the most essential aspect of the technique is the observer; for it is evident that the observer is an important part of the procedure. On this account, it is necessary that any observer possess certain capacities for accurate observation. The minimum essentials of an accurate observer are efficient sense

DATA SHEET FOR SYSTEMATIC OBSERVATIONS

Teacher School Observer

Date: Month-Day-Year					
Minutes Observed					
Type of Work, Activity, or Topic					
Names of Pupils					
1.					
2.					
3. etc.					

organs, ability to attend to subjects despite competing stimuli, ability to make accurate estimates and to discriminate among categories, freedom from pathological states, and freedom from prejudices.

After several observers had secured a week's experience in the application of the code, their codings on the same classroom discussion were compared. Each observer coded the behavior separately and independently at the same time for the same situation. Then the scores assigned to each pupil by the observers were compared and the extent of agreement noted. The total scores for each pupil agreed to an extent of 90 per cent. The scores for individual code items of two independent observers revealed agreement of 88 per cent.

Reliability of the code.—The code was applied to ten classroom situations in the elementary schools of one school system. Each class was observed for a total of approximately 180 minutes, comprising about 12 periods of 15 minutes each. The score of each pupil for half

the number of minutes of observation was paired with his score for the other half, and, so far as possible, the scores for alternate days were used in each half. The coefficients of reliability between the scores of the split halves of the observation were secured by the Pearson product-moment method. These coefficients were corrected by application of the Spearman-Brown formula. The corrected coefficients appear in Table I. An inspection of this table reveals that the median coefficient of correlation for single class groups of ap-

TABLE I
COEFFICIENTS OF RELIABILITY OF SCORES ON CODE
MEASURING TEACHER CONDUCT OF CLASSES IN
ELEMENTARY-SCHOOL CLASSROOMS

Grade	Number of Pupils in Class	Coefficient of Reliability
School A:		
I	33	.90 ± .02
II	36	.82 ± .04
III	35	.73 ± .05
IV	35	.78 ± .04
V	37	.83 ± .03
VI	32	.73 ± .05
School B:		
I	25	.90 ± .02
II	36	.87 ± .03
III	39	.72 ± .05
IV	31	.88 ± .03
V	41	.51 ± .08
VI	44	.91 ± .02

proximately thirty pupils each is .83. It is worthy of note that high coefficients of .90 and .91 were secured in three groups and that a rather low correlation of .51 was secured in one group. The low correlation represents a classroom situation in which the textbook assignment plus a question-and-answer type of recitation occurred rather generally. The teacher so dominated the recitation that a freer type of pupil-teacher discussion was impossible.

Analysis of data of the code.—The first approach to the analysis of the data for the code on teacher conduct of class discussion was a class-group treatment. The percentage frequencies of the occurrence of the items comprising the code were computed. Thus, similarities and differences in the conduct of class discussions may be computed.

For example, the percentage frequencies of Item 5c, given in Table II, show a variation from 46 per cent in Grade III in School A to 72 per cent in Grade V in School A. It is clearly evident that the teachers' methods of conducting discussions in these two classes were entirely different. The difference is further observable in Item 5i for the same class groups. For this item the percentage frequency is 37 in Grade III and 8 in Grade V. This analysis indicates that the teacher of Grade V relied more fully on pupil voluntary contribu-

TABLE II

PERCENTAGE FREQUENCIES WITH WHICH ITEMS COMPRISING CODE MEASURING TEACHER CONDUCT OF CLASS DISCUSSION OCCURRED IN ELEMENTARY-SCHOOL CLASSES IN SOCIAL STUDIES

ITEM SCORED	PERCENTAGE IN SCHOOL A IN GRADE						PERCENTAGE IN SCHOOL B IN GRADE					
	I	II	III	IV	V	VI	I	II	III	IV	V	VI
5a. Pupils' voluntary contributions	1	2	5	3	1	0	1	1	0	1	0	0
5b. Encourage contribution.	8	13	4	5	8	4	5	4	2	4	9	3
5c. Propose thesis.	60	60	46	70	72	69	68	62	72	62	54	67
5d. Refer to sources.	5	0	0	0	0	0	0	0	0	0	0	0
5e. Suggest means	0	0	0	0	1	1	0	1	1	0	1	1
5f. Discourage contribution	3	5	4	3	5	9	4	6	2	7	4	1
5g. Recall attention.	4	3	0	1	0	0	3	6	6	2	0	0
5h. Assign task.	12	2	4	2	5	4	4	7	3	3	3	0
5i. Question and answer	1	15	37	16	8	13	15	13	14	21	29	28
Total.	100	100	100	100	100	100	100	100	100	100	100	100

tions and individual research than did the teacher of Grade III. Conversely, the teacher of Grade V placed relatively less stress on questions and answers from assigned subject matter in textbooks than did the teacher of Grade III.

For more detailed statistical analysis the standard error of proportion may be used to discover significant differences. The standard error of proportion is equal to the quotient of the observed difference of the two percentages divided by the square root of the sums of the standard errors of sampling. This value must equal at least three if it is to be considered significant. For instance, the differences of the percentage frequencies for Item 5i in Grades III and V in School

A is 29. The square root of the sum of the standard errors of sampling is 9.3. The quotient is 3.1, which indicates a significant difference between the teachers.

Summary and implications.—The controlled-observation technique has been employed in an effort to devise an instrument for measuring teacher conduct of class discussion or recitation. This technique comprises a number of systematic daily observations of defined units of behavior observable in individuals or groups for limited short periods of time. Each defined unit of behavior is represented by a code, and a code entry is made each time such behavior occurs during a period of observation.

The units of teacher conduct of class discussion defined in this code are represented by such pupil-teacher interactions as allowing a pupil to make a voluntary contribution, encouraging a pupil to make a contribution, proposing a question or a thesis, referring a pupil to sources of data, and similar categories. The units of behavior for an identical situation can be recorded with a high degree of accuracy by independent, experienced observers. The reliability coefficient of the instrument compares favorably with reliabilities of more conventional measuring devices, such as achievement tests.

The code for teacher conduct of classroom discussion or recitation has descriptive and analytical values for both the teacher and the supervisor. It provides an instrument of analysis and measurement for the research worker who is studying the experimental social psychology of the classroom. Similar instruments may be devised to measure other aspects of the educative process.

The advantages of controlled-observation techniques are (1) that they provide a direct method of sampling behavior in actual classroom situations, (2) that measurement can be taken without disturbing the normal activities of the group, and (3) that the data can be treated by conventional statistical formulas. Caution must be exercised, however, in interpreting norms derived from limited groups and selected populations, and generalizations should be limited to groups of which the data are typical.

SELECTED REFERENCES ON PUBLIC-SCHOOL ADMINISTRATION. II¹

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In the January number of the *Elementary School Journal* selected references were given on general administration, state school administration, and city school administration. The references in this article are concerned with supervision, teaching staff, school finance, business management, and public relations.

SUPERVISION²

31. BARR, A. S. "Scientific Supervision," *School Executives Magazine*, LII (January, 1933), 166-67, 184.
Defines scientific supervision and shows how the shortcomings of supervision of the conventional types may be overcome in an effective and scientific manner.
32. BEAR, ROBERT M. "The Principal as Administrator and Supervisor," *Nation's Schools*, XI (April, 1933), 49-52.
A suggestive discussion of factors affecting the supervisory and the administrative services of the high-school principalship in the state of Kentucky.
33. GWINN, J. M. "Supervision—Its Scope, Purpose and Accomplishments," *Nation's Schools*, XI (January, 1933), 49-50.
A discussion of the purpose of supervision and methods of making supervision more effective.

TEACHING STAFF

34. COOKE, DENNIS H. *Problems of the Teaching Personnel*. New York: Longmans, Green & Co., 1933. Pp. xvi+384.
A treatment of considerable value to superintendents, principals, and supervisors on the proper administration of the teaching staff.
35. EDWARDS, NEWTON. "The Law Governing the Dismissal of Teachers," *Elementary School Journal*, XXXIII (December, 1932, January and February, 1933), 255-67, 365-76, 434-46.

¹ This list is one of a cycle of twenty lists of selected references covering all major aspects of the field of education which is being published co-operatively by the *Elementary School Journal* and the *School Review*.

² See also Item 40 in the list of selected references appearing in the January, 1934, number of the *School Review*.

A comprehensive review of court decisions pertaining to the dismissal of teachers. Indicates the causes for which teachers may be dismissed and the remedies open to dismissed teachers.

36. "Estimating Changes in Teachers' Cost of Living." Educational Research Service, Circular No. 1, 1933. Washington: Department of Superintendence and Research Division of the National Education Association, 1933. Pp. 15.
Shows the inadequacy of the ordinary cost-of-living index for studying trends in the economic status of teachers or for adjusting teachers' salaries.
37. JORDAN, R. V. "The Intelligence of Teachers," *Elementary School Journal*, XXXIII (November, 1932), 195-204.
A review of the scientific studies of the relation of intelligence-test scores to college achievement, with special reference to the selection of prospective teachers.
38. KUHLMANN, WILLIAM D. *Teacher Absence and Leave Regulations*. Teachers College Contributions to Education, No. 564. New York: Teachers College, Columbia University, 1933. Pp. viii+76.
Some basic facts and principles related to temporary absence of teachers, for use in formulating valid absence regulations.
39. "Shall Married Women Be Barred from Teaching?" *Journal of the National Education Association*, XXI (December, 1932), 299.
A summary of the arguments for and against the practice of excluding married women from teaching positions in the public schools.
40. STETSON, PAUL C. "Surplus of Trained Teachers a Menace to Salaries and Standards," *Nation's Schools*, XII (July, 1933), 9-11.
Discusses the need of changes in admission requirements of teacher-training institutions.

SCHOOL FINANCE

41. BOWYER, VERNON. "Relation of Public-School Support to Subsequent per Capita Wealth of States," *Elementary School Journal*, XXXIII (January and February, 1933), 333-45, 417-26.
An important statistical analysis of the correlation between school support in the various states at different periods since 1890 and the subsequent per capita wealth of these states.
42. CARR, WILLIAM G. "Some Economic Principles Basic to School Finance," *American School Board Journal*, LXXXVI (March, 1933), 21-22, 59.
Considers three economic concepts fundamental to sound school support: the nature of taxation; the economic law of supply and demand, with special reference to teachers' wages; and the broad economic effects of education.
43. DAVIS, H. H. "What Actually Becomes of Tax Money?" *Nation's Schools*, XII (September, 1933), 19-20.

Explains how tax money employed in the support of public services returns to regular business channels

44. *Facts on School Costs*. Research Bulletin of the National Education Association, Vol. X, No. 5. Washington: Research Division of the National Education Association, 1932. Pp. 202-26.
A statistical report comparing school costs and national income, national wealth and value of public-school property, national income and governmental costs, school costs and other governmental costs, and school costs and certain other expenditures. A summary of recent trends in school costs is included.
45. JOINT COMMISSION ON THE EMERGENCY IN EDUCATION. *Report of National Conference on the Financing of Education*. Washington: National Education Association, 1933. Pp. 78.
A brief statement of the essential procedures involved in the financing of a modern school system. Deals with such matters as the state's responsibility, tax relief, the stabilization of school revenue, federal aid, etc.
46. NATIONAL SURVEY OF SCHOOL FINANCE, RESEARCH STAFF AND SPECIAL CONSULTANTS. *Research Problems in School Finance*. Washington: American Council on Education, 1933. Pp. vi+164.
A brief but suggestive discussion of each of a dozen important problems in the field of school finance concerning which further research is needed. This publication is intended as a guide to graduate students and other research workers in this field.
47. PICKELL, FRANK G. "Improvement in Management of Finance," *School Executives Magazine*, LIII (September, 1933), 3-5.
Discusses methods of securing improvement in the management of finances through better budgetary practices.
48. PITKIN, ROYCE STANLEY. *Public School Support in the United States during Periods of Economic Depression*. Brattleboro, Vermont: Stephen Daye Press, 1933. Pp. 144.
A historical account of changes in the amounts and sources of revenue for public-school purposes and in the expenditures for such purposes in the several periods of economic depression in the United States beginning with that of 1837.
49. SWIFT, FLETCHER HARPER. "Let America Study the French System of Financing Schools," *Nation's Schools*, XII (July, 1933), 41-44.
A comparison of the methods of financing schools in the United States and in France, with emphasis on certain advantages of the French system.

BUSINESS MANAGEMENT

50. BEACH, FRED F. *The Custody of School Funds*. Teachers College Contributions to Education, No. 577. New York: Teachers College, Columbia University, 1933. Pp. x+160.
An appraisal of systems of school-fund custody, with particular reference to New York State.

51. BURKE, ARVID J. "Summer Work for School Janitors," *Nation's Schools*, XI (June, 1933), 62-63.
A list of services which janitors might profitably render during the summer vacation.
52. CAREY, R. B. "A Budget Control Plan for Handling Student Activity Funds," *Nation's Schools*, XI (April, 1933), 61-63.
An outline of a plan of budgetary control for extra-curriculum activities.
53. CHASE, VERNON E. "Measuring the Utilization of School Buildings," *American School Board Journal*, LXXXVII (November, 1933), 37-40.
Presents a formula for use in building surveys which gives a coefficient of utilization in terms of pupils, time, and floor area.
54. ENGELHARDT, FRED. "Transportation and the School Plant," *American School Board Journal*, LXXXVII (November, 1933), 28, 57.
The author proposes that transportation be considered an essential element in the development of a minimum school-building program for a state instead of a unique educational service peculiar to certain localities.
55. ENGELHARDT, N. L. "The Measurement of Efficiency of School Business Administration," *American School Board Journal*, LXXXVI (April, 1933), 15-16.
Considers the items in a checking list designed to provide for a unity of concept concerning the items which should constitute the work of business administration in any school system.
56. FROSTIC, FRED W. "The School Plant: How Do You Buy Your Coal—by Weight or by B.T.U.'s?" *Nation's Schools*, XII (August, 1933), 55-57.
A discussion of possible economies in expenditures for coal through careful selection, contracting, testing, and record-keeping.
57. FROSTIC, FRED W. "The School Plant: The Gymnasium Floor—How To Take Care of It," *Nation's Schools*, XII (September, 1933), 59-60.
Suggestive devices for keeping gymnasium floors clean, serviceable, and attractive.
58. HILL, ANDREW P., JR. "'Safety First' Should Be Motto in Reducing Building Costs," *Nation's Schools*, XI (June, 1933), 33-38.
Suggestive cautions regarding current proposals for economy in the construction and the maintenance of school plants.
59. HOLMES, WARREN S. "How the Cost of Insurance on Public-School Properties Can Be Reduced," *American School Board Journal*, LXXXVII (August, 1933), 23-24.
Indicates possible savings in insurance costs through care on the part of the policy-holder to comprehend his obligations in the insurance contract.
60. JONES, PATRICK. "The Purchase of School Supplies," *School Executives Magazine*, LIII (September, 1933), 6-7, 23.

Explains the operation of an effective system of purchasing supplies in use in America's largest city.

61. LEX, CHARLES E., JR. "Co-ordinating the Purchases of City, County, and School Board," *American School Board Journal*, LXXXVI (February, 1933), 24, 65.
Describes how the board of education in a large city has co-ordinated its purchases with those of the municipality and county in which it is located and has thus achieved both economy and efficiency.
62. MORTON, W. H. "Care of School Floors," *School Executives Magazine*, LII (May, 1933), 294-96.
Offers practical suggestions for the solution of many problems in the maintenance of school floors.
63. PYKOSKI, C. T. "Is Your School Wasting Its Man Power?" *Nation's Schools*, XI (April, 1933), 53-56.
An explanation of the basic factors underlying the method in use in Minneapolis for determining the unit of work in janitorial service.
64. "School Boards neither Manage Schools nor Buy Supplies," *Nation's Schools*, XI (February, 1933), 66-67.
A report of administrative practices in a thousand cities indicating that school boards largely delegate administrative functions to the superintendents.
65. *School Buildings, Grounds, Equipment, Apparatus, and Supplies*. Review of Educational Research, Vol. II, No. 5. Washington: American Educational Research Association of the National Education Association, 1932. Pp. 343-442.
A summary and critical review of investigations and reports pertaining to the topics enumerated.
66. THOMPSON, CLEM O. "Professional Advice Expected by the School Architect from the School Administrator," *Elementary School Journal*, XXXIII (May, 1933), 690-97.
Suggests the need for co-operative effort on the part of several specialists in working out plans and specifications for new school buildings.

PUBLIC RELATIONS

67. AKERLY, HAROLD E. "It Pays To Be Frank with the Taxpayer, But—," *Nation's Schools*, XI (April, 1933), 33-36.
A description of the publicity procedure followed in connection with the preparation of the school budget in Rochester, New York.
68. BURKHALTER, FRANK E. "Proper Publicity Will Stop Unfair Budget Cuts," *Nation's Schools*, XII (September, 1933), 36-38.
Describes methods of keeping the public informed about the work of the schools and argues for the value of publicity in preventing unwarranted budget cuts.

69. PARKER, HOWARD L. "A Plan for Sifting Propaganda in the Schools," *Elementary School Journal*, XXXIII (December, 1932), 277-82.
An analysis of the types of propaganda to which school pupils are commonly subjected and a discussion of ways of handling such propaganda.
70. RYAN, CALVIN T. "Educational Publicity and What It Will Accomplish," *Nation's Schools*, XI (January, 1933), 57-59.
A historical sketch of publicity, with suggestions for recognizing and controlling publicity measures.
71. SIEDLE, THEODORE A. "The Administration of a Program of Public Relations in School Finance," *Educational Administration and Supervision*, XIX (September, 1933), 421-30.
Considers the evolution of public relations, current practices, preferred practices, and difficulties to be overcome, and makes recommendations for the improvement of practices.
72. WALLER, J. FLINT. *Outside Demands and Pressures on the Public Schools*. Teachers College Contributions to Education, No. 542 New York: Teachers College, Columbia University, 1932. Pp. vi+152.
Discusses the nature of the outside demands and pressures on the schools and considers causes, promoters, effects, and methods of control.

Educational Writings

REVIEWS AND BOOK NOTES

Improving reading through adequate supervision.—Investigations of instructional practice in reading in various parts of the country have pointed out repeatedly that not only are there wide differences in the achievements attained by various teachers with comparable classes but also that school practice commonly lags far behind the best scientific knowledge. These conditions are confirmed in Gray's recent monograph.¹ The monograph, however, is primarily concerned, not with a description of status, but rather with the portrayal of an effort, extending over five years, to narrow the gap between the achievement in certain schools and that known to be possible under a modern educational program based on the scientific studies of the last twenty-five years. The report reflects a happy combination of a thorough knowledge and command of the method of research with a competent insight into the problems of teaching in practical situations.

The author's first step was to make a thorough survey of all factors pertaining to the teaching of reading in the schools chosen for his experiments. The conditions which the author found at the outset were far from satisfactory. The achievement of the pupils, as measured by standard tests, was low; the equipment was inadequate; professional libraries were almost wholly lacking; and most of the teachers and supervisors had had little professional training in the teaching of reading. All these factors were taken into account in building a program which progressively improved instruction in reading.

The results which were attained under the author's leadership show that it is possible to make marked improvement in the teaching of reading through the application of knowledge gained from research. It seems very likely, moreover, that the growth of the pupils in the experimental classes was really greater than is indicated either by the scores on the standard tests which were used to measure progress or by the increase in the number of books read. The richer and better-balanced program which the author introduced undoubtedly increased the ability of pupils to locate information on problems raised in other subjects, to organize knowledge gained from a variety of sources, and to present this organized

¹ William S. Gray, with the assistance of Gertrude Whipple, *Improving Instruction in Reading: An Experimental Study*. Supplementary Educational Monographs, No. 40. Chicago: Department of Education, University of Chicago, 1933. Pp. xiv + 226. \$1 75.

material in appropriate form. It is most probable that it also raised the quality of the reading tastes of the pupils. None of these valuable abilities are adequately measured, however, by the tests used in the experiment.

The author rightly points out that marked improvement in teaching comes only through the co-operation of professionally-minded teachers and capable supervisory leadership. The picture which the author presents of the competence and professional spirit of the teachers and the supervisors in these schools has both encouraging and discouraging aspects. If the practice in these schools at the outset of these experiments is at all representative of what is to be found in the country generally, one must conclude that the general level of the teaching of reading is very low. A small minority of both teachers and supervisors was found to be either incompetent or unwilling to put forth any efforts to improve themselves. The limitations of lack of training were rather readily overcome, but those growing out of self-satisfaction and poor attitudes proved, for the most part, insurmountable. The author is to be commended for his courageous indictment of the non-co-operative workers and for his statement that such persons have no place in the teaching profession. The majority of teachers and supervisors, however, co-operated enthusiastically and made sincere efforts to acquaint themselves with the results of research, as well as to apply this knowledge to the improvement of their teaching. The professional attitude of such persons was uniformly reflected in the superior results attained by the children under their direction as compared with the correspondingly unsatisfactory results attained under the direction of teachers and supervisors of low professional spirit.

This monograph deserves a place in the professional library of every superintendent and supervisor because of its definite and helpful suggestions for setting up a supervisory program for the improvement of instruction in reading. Particular attention should be called to those parts which show how difficult it is to provide for the growth of teachers except through competent and professionally-minded supervisory officials. It should do much to combat the shortsighted policy of dismissing competent supervisors as an economy measure.

ERNEST HORN

UNIVERSITY OF IOWA

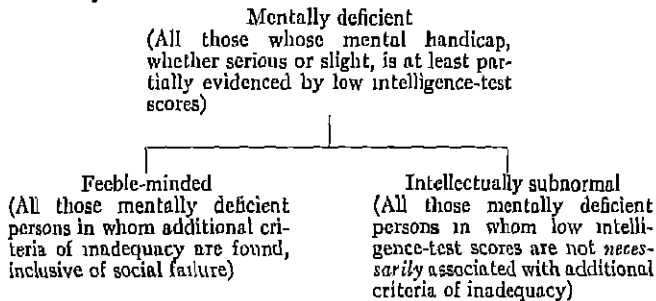
A program of action for the care of the handicapped child.—A report of the White House Conference on Child Health and Protection¹ comprises a most timely handbook of information and guidance on the major problems involved in children's physical and mental deficiencies. While officially the product of subcommittees and advisory committees numbering over one hundred persons, the book bears the unifying stamp of careful work on the part of the chairman. For once, bare statistics, as cited in this book, are more shocking than the

¹ *The Handicapped Child*. Report of the Committee on Physically and Mentally Handicapped, William J. Ellis, Chairman. Section IV, The Handicapped: Prevention, Maintenance, Protection. White House Conference on Child Health and Protection. New York, Century Co., 1933. Pp. xxvi+452. \$3.00.

expository and hortative materials built up about them. Thus we find that in the United States there are:

- 2,000,000 children with impaired hearing
 - 17,000 of which are deaf
- 65,000 visually handicapped children of which
 - 15,000 are blind, and
 - 50,000 partially seeing
- 300,000 crippled children
- 400,000 tuberculous children and
 - 850,000 suspected cases of tuberculosis
- 450,000 children with cardiac limitations
- 2,500,000 children with well-marked behavior difficulties including the more serious mental and nervous disorders
- 6,500,000 children who are mentally deficient (as newly defined)
 - 850,000 of whom are definitely feeble-minded and
 - 5,650,000 who are intellectually subnormal
- 150,000 epileptic children [p. 4].

On the whole, the estimates quoted appear to be based on the best existing evidence, but the item of 6,500,000 mentally deficient children (however defined!) needs explanation. It is clear from the chapter on mental deficiency and some additional notes in the Appendix that the committee itself could not come to an agreement on the meaning of the terms "mental deficiency" and "feeble-mindedness." Nor does the pragmatic scheme (p. 332) reproduced below appear satisfactory.



It will forever fog the issue if all the forces of personal and social inadequacy are lined up with intellectual deficiency in a composite diagnosis of "mental deficiency." In such a system the border-line child is penalized for behavior which characterizes (but does not affect the *mental* rating of) the great mass of "normal" children. We need a term such as "social deficiency" to include the totality of child responses below some standard of behavior and responsibility. Intelligence as measured by tests would then retain its place as a meaningful

factor in child adjustment. Although the problem of mental health is recurrent in several volumes of the White House Conference reports, the section devoted to it here will repay careful reading. This discussion admits frankly a rather complete ignorance of the causative factors in a large percentage of mental disease (especially dementia praecox) and stresses the need of intensive research. Occasional statements arouse one's curiosity, such as the following found on page 291: Among drafted men the epileptic rate was 1,272 per 100,000 in Vermont and 120 per 100,000 in South Dakota! Again, the rate for feeble-mindedness in Vermont was 3,090 for each 100,000 and in Arizona, 232!

The tremendously high incidence of mental disorders has been known for some years, but figures such as these insure against complacency. "Dementia praecox . . . accounts for over 35 per cent of all commitments under twenty years of age. There are more beds occupied by dementia praecox cases than by all other mental patients combined . . . [Dementia praecox cases] exceed the total combined population of all institutions for the feeble-minded and epileptic and all state prisons" (p. 293).

Are mental disorders increasing? The evidence, while inadequate, indicates a steady increase since 1910, and since 1923 an increase "predominantly, if not wholly, among males" (p. 296).

So the dreary story goes. But there is no lack of positive grinding and planning at every point. How can we improve the mental health of the nation's children? Through "adult influence in general and parental influence in particular . . . through nursery schools, kindergartens, and other preschool organizations, through organization of public-school programs so that they center about the child, his capabilities, and his adjustment to life rather than about subject matter, through education of grade-school children in the principles of social relationships, and through courses on personal mental hygiene in high schools and colleges" (p. 316).

The place of state, community, and family in a comprehensive plan is carefully outlined: early testing and special schooling for the auditorially and visually handicapped, together with the application of preventive measures. The whole vast problem of crippled children is brought to rest squarely on the state and to call for a co-ordination of medical, legal, educational, and vocational services.

Everywhere one is impressed with the futility of the opportunistic, penny-wise and pound-foolish systems devised by states and cities to "look after" the handicapped child. Yet nowhere in our social scheme are the ordinary dictates of conscience so explicitly supported by the findings of objective inquiry. We have long known that something better should be done, both as a service to the individual child and as a contribution to society. In developing clearly the essential principles of a preventive and remedial program, this book performs an invaluable service. It should have a place in the reading list of high-school and college students and lie within arm's length of every teacher, social worker, administrator, and lawmaker concerned with the welfare of children.

GEORGE D. STODDARD

UNIVERSITY OF IOWA

A British discussion of general and special method.—During the past two decades the field of methodology in education has been represented by at least three kinds of publications, in terms of the type of analysis or technique of investigation represented. Many of the earlier books were philosophical and abstract discussions of theories advanced by the authors in question or by the educational leaders and philosophers of the past. Naturally, such “armchair” treatises lack much with respect to concreteness and experimental verification of the procedures advocated but may provide historical perspective as an aid in evaluating so-called “cycles” or “fads and frills” in educational practice. A more recent approach to the problem of method is that of collecting a wealth of concrete material through analyses of classroom lessons or of the activities and difficulties of teachers and pupils. Stenographic reports, interviews, activity analyses, check lists, tests, and direct observation are used in such analyses. The helpfulness of such practical discussions, based on actual experience, is obvious, although a basal and unifying theory which looks beyond present practice too frequently is lacking. The most promising attack on the problem of method has been made by workers who employ the techniques of experimental psychology, subjecting to the test of experimental verification current practices and theories or hypotheses advanced by individual workers. An excellent illustration of this approach is found in the University of Chicago studies of reading and number, in which the eye-movement technique is utilized. With respect to the scope of the topics treated, educational methodological books may be classified into several groups: the “omnibus” type, which discusses both general and special method, as well as many other problems such as are considered in a book on “principles of education”; general and special method; general method only, special method in a variety of school subjects; and special method in one subject only.

A new book¹ by an Australian author, who has studied and taught in the United States, includes the problems of both general and special method at the elementary level. The book is, in the main, a theoretical discussion of classroom procedure, in which the voice of authority gives “fatherly” and rather dogmatic advice, although many pointed and concrete illustrations from real school situations are used. There is virtually no reference to current educational literature or to the results of experimental research in the field represented, and no bibliographies are given. An examination of the Index verifies this statement and suggests that the author's Ph.D. degree from an American university and his visiting professorship in this country have been relatively ineffective in familiarizing him with the results of the scientific movement in America, especially with reference to methods and materials of instruction. The names of the authors and the educational plans listed in the Index are: Aldhelm, Aristophanes, Bacon, Binet, Dalton plan, Fellenberg, Froebelian gifts, Gary system, Herbart, James, Keatinge, Locke, Lynch, Lyttleton, MacDougall, Middleton, Mill, Milton, Montessori, Occam, Parkhurst, Pestalozzi, Plato, Quintilian, Rousseau, Dora V. Smith, Socrates, Spencer, and Squeers.

¹ Percival R. Cole, *The Method and Technique of Teaching* Melbourne, Australia. Oxford University Press, 1933. Pp. x+388.

The topics discussed include "stimulative" and "associative" teaching, instincts as learning incentives, types of lessons, preparedness (classroom routine and management), sequence (organization of subject matter and its adjustment to the pupil), interest, thoroughness, discipline and pupil government, questioning, examining, and special method in the several subjects (English, mathematics, history and civics, geography, nature-study, hygiene and physical training, art, music, and manual work). The types of lessons discussed are: informative (mastery of information through teacher and pupil activity), practical or active (mastery of skill), and affective (acquisition of appreciations). In the discussions of the school subjects the recommendations of the Board of Education (English) are frequently stated. There is no evidence in these chapters to indicate that in such subjects as mathematics, social science, and natural science the unified or correlated type of curriculum organization has developed in the upper elementary school of the British Empire as it has in the American junior high school.

For the most part, the advice given seems reasonably sound, although there are some procedures with which the American student will disagree violently. The recommendations concerning the teaching of reading and writing furnish one example: "Little reading should be expected of the average child of six. At this stage no books are necessary; in their stead models of letters are employed, or blocks on which the letters appear. By the use of such models, blocks, or similar aids, the children soon associate the sound of a letter with its symbol. They may build up simple words in play" (pp 226-27). The author suggests that pupils trace "with a stylus the grooves which have been cut out on a board in the form of letters or words" (p. 231). While such statements impress the reader as exceedingly formal, in many other respects the discussions are more progressive. At least, the book presents an interesting picture of the more traditional type of methodology recommended for the British elementary school, together with examples from actual classroom situations.

CARTER V. GOOD

UNIVERSITY OF CINCINNATI

Principles of management and teaching in the elementary school.—A serious defect of many of the earlier discussions of school management was their attempt to perfect a too thoroughgoing analysis of their problem, an attempt to separate the details of management from the things to be managed. Such divorcement of means and ends, frequently paralleled in those discussions of methods which were neglectful of content, has led in many instances either to unworkable generalizations or to sets of rules which kill the spirit of the school. A recent book¹ sets out to describe school management in a different way. The book undertakes "to apply the principles of educational sociology to the field of management and technique" (p. vii) and to give "younger teachers a grasp of the significance of a sound philosophy and sociology of education" (p. viii)

¹ George A. Retan, *Management and Teaching Technique in the Elementary School*. New York: Prentice-Hall, Inc., 1933. Pp. xx+370. \$2.00.

The book describes the school as society in miniature, impinged on, and conditioned by, the varied activities and interests of the local community in which it happens to be situated. In the community there are many social agencies touching the life of the pupil. The school is one of these agencies, acting in parallel and in conjunction with the rest and possessing as its special responsibility that of carrying through the tasks which the others neglect. Citizens in the community outside the school encounter difficulties in the activities in which they engage. Such difficulties set "problems" for solution, and the solutions derived determine what the subsequent activities shall be. Citizens in the school community (pupils) encounter difficulties in the activities in which they engage. They, accordingly, have "problems" and must determine solutions as bases for further activities. Thus, the function and the procedure of the school are determined.

Whether such a description of the school is the application of appropriate "principles of educational sociology" and a "sound philosophy" depends on the reader's point of view. The reader may wonder how a school can contribute to social betterment or to the raising of the level of mass intelligence by shaping its activities and procedures according to the pattern set by the life of the community in which it is located. He may reflect that the encountering of difficulties in the economic, social, and political life of adult society has appeared in recent years to lead more to confusion than to workable solutions, and he may question whether similar conditions, when set up in the school, may not produce similar results. Though the "significance of [the] sound philosophy and sociology of education" which the book expounds may be grasped by the teacher, it is a matter of doubt whether he will be able to "apply" any of it to his "management and teaching technique" unless he is willing to go the whole way suggested and to try to transform the elementary school from an institution in which pupils learn the social arts into one which merely provides the stage for an activity program.

On the other hand, if the young teacher is able to forego the general lessons in philosophy and sociology which are attempted as foundational (the reviewer believes he will if they are not impressed upon him by an over-zealous instructor), he will find within the book much that is of value by way of information and suggestion. Among many important topics touched on are the following: agencies other than the school as distracting or helpful influences; varied attitudes of pupils and their differing types of emotional adjustment and maladjustment; the need for planning the school program and the various items to be considered; opportunities for the learning of such general lessons as courtesy, obedience, industry, trustworthiness, and the like, which are not especially provided for in any of the school subjects as such; the teacher's relations with parents and with other citizens in the activities of community life; and those general qualities of "personality" which the teacher may consciously cultivate.

The discussions extend through eighteen chapters, grouped in the following six major divisions: I, "A Point of View in Education", II, "The Basis for Tech-

nique and Management"; III, "Management"; IV, "The Technique of Teaching", V, "The School in the Community", VI, "The Teacher in the School."

H. G. WHEAT

MARSHALL COLLEGE, HUNTINGTON, WEST VIRGINIA

An experimental study of problem-solving in arithmetic.—However complacent teachers of arithmetic may appear to be about their success in developing computational skill, they are virtually unanimous in confessing their failure adequately to develop ability in problem-solving. How to teach children to solve verbal problems remains the most baffling phase of arithmetic instruction in spite of the increasing number of experimental attempts to isolate and to examine the source of children's difficulty in this kind of learning. One reason why these investigations are less helpful than could be desired is that too often they deal with subsidiary and only indirectly related aspects of problem-solving rather than make direct attacks on the nature of problem-solving itself. A recently reported research¹ in problem-solving avoids by a narrow margin the danger of being classifiable as another study of this type.

The investigation really comprised three comparatively separate enterprises. The major study, reported in chapters iii and iv, represents an attempt to measure the effect of the following four factors in problems on success in the solution: sentence form ("interrogative-complex" versus declarative), familiarity of vocabulary, style of problem (brief statement versus detailed statement with irrelevant items), and interest of setting. The experimental technique followed rather closely that made familiar by Hyde and Clapp (*Elements of Difficulty in the Interpretation of Concrete Problems in Arithmetic*, University of Wisconsin Bureau of Educational Research Bulletin No. 9, 1927) and especially by Monroe (*How Pupils Solve Problems in Arithmetic*, University of Illinois Bureau of Educational Research Bulletin No. 44, 1929). Eight tests, each composed of sixteen problems designed to cover all possible patterns of the factors under investigation, were administered to 237 sixth-grade pupils. Detailed statistical treatment for the group as a whole and for three intelligence subgroups revealed slight influence of the factors. No difference was demonstrable for interesting settings, and only slight differences for the interrogative-complex sentence, for the concise style of statement, and for familiar vocabulary.

A second study, reported in chapter vi, was later undertaken to check the validity of the investigator's earlier classification of the test problems as interesting or uninteresting on the basis of a priori considerations. About a third of the original research problems were selected in such a way that half were "interesting" and half "uninteresting" and that, at the same time, the other experimental factors were held constant for the two halves. It was found that the

¹ Grace A. Kramer, *The Effect of Certain Factors in the Verbal Arithmetic Problem upon Children's Success in the Solution*. Johns Hopkins University Studies in Education, No. 20. Baltimore: Johns Hopkins Press, 1933. Pp. 106. \$1.75.

children tended greatly to prefer the "interesting" problems, the agreement with the investigator's classification being 86.1 per cent.

The reader of these two parts of the report is impressed by the investigator's command of her techniques, by her extraordinary care in the preparation of her test problems, by her thorough statistical treatment, and by the absence of bias and unguarded generalizations in the interpretation of her findings; and yet he cannot but feel that his understanding of the process of problem-solving has been only slightly advanced. Were it not for the excellence of chapter v, "Critical Analysis of Children's Work," such would be the evaluation of the study as a whole. In this section the author, after presenting only a part of her extensive analyses of test data, concludes that "somewhat habitually and perfunctorily the operation performed [by children in solving problems] is the one previously associated, through persistent, unpsychological drill, with a familiar phrase, word, or combination of numbers which serves as a cue" (p. 72). Thus, the "how many times" phrase was found to constitute a multiplication cue so strong that only 12 of 229 children whose papers were examined divided correctly in a problem containing the phrase. By contrast, the words "each" and "apiece" regularly suggested division even in problems calling for multiplication. The convincing nature of the author's data and her insight into their significance warrant one in wishing that she had taken this problem of cues as the sole object of her investigation. They would have justified her also, had she been so minded, in extending the application of the following quotation, made by her with respect to division alone, to the whole field of problem-solving.

Intelligent study of the ways in which children reason will improve the teaching of [problem-solving]. Men have worked through the ages to evolve the principles which govern this mode of thinking. Certainly we can transmit it to children in such a way as to liberate their mental powers rather than to, as it were, handicap them by persistent practice in that failure to use the essential data of their problems which results from too great dependence upon cues. That we do not analyze children's mental processes is the cause of much of our waste in teaching [p. 69].

DUKE UNIVERSITY

WILLIAM A. BROWNELL

An elementary philosophy of education.—The title of the Hissongs' new book¹ might suggest a manual on methods, but the content is more of the type we should expect to find under the title "Principles of Education." It is an elementary statement of the basic truths and recognized principles on which the educational process is founded. The part that might be classed as a treatment of devices or methods of teaching is secondary to the psychological and philosophical part.

The scope of the work is best shown by the chapter subjects. the nature of the individual, the nature of the social order, education as a changing concept,

¹ Clyde Hissong and Mary Hissong, *An Introduction to the Principles of Teaching* Philadelphia. John C. Winston Co., 1933. Pp xii+260. \$2.00

aims of education, the thinking process, the enrichment of concepts, Herbartian influence on educational practice, habit as the basis of thinking, and teaching for transfer

The total amount of material in the book is small. The pages are small, the type is large, and the spacing is liberal. The total impression is one of easy reading and rapid covering of the ground. Perhaps some instructors would not find enough material for a course without considerable supplementing. On the other hand, some colleges will have only a short period for this introductory course and will welcome a book that is brief and elementary. Teacher-training textbooks, like shoes or articles of clothing, are to be judged not only for their inherent qualities but also for their suitability to the situations in which they are to be used

The chapter on transfer of training is particularly praiseworthy in its emphasis on the point that the teacher is responsible for making the class work relate to life instead of trusting blindly that it will automatically do so. Too many teachers have trusted to accidental transfer and have not sought to make the accidents happen.

C. C. CRAWFORD

UNIVERSITY OF SOUTHERN CALIFORNIA

A problem book in classroom management.—The educational efforts of the schools obviously converge at the point of contact between teacher and pupil. Most educational improvements must register through the teacher, or not at all. She at all costs must be trained, and to one purpose. She must be trained to modify the behavior of youth with a view to certain ends. More definitely, she must be trained to perform two types of tasks, the instructional and the extra-instructional. The first are directly related to the guidance of learning; the second, indirectly. For one, she needs principles of instruction; for the other, principles of management. The training objective for the classroom teacher seems not to be in doubt. Only the means is problematical.

The number of books that have recently appeared in the field of classroom management is sufficiently large to suggest a distinct revival of interest in the subject. One of the most recent of these¹ is especially worthy of comment because it marks a departure in type and function from the rest. Happily for those who have a vested interest in the field and appreciate the threat of a vigorous competitor, it may be said by way of reassurance that the new addition to the list is conceived of as a supplement to, rather than as a substitute for, other textbooks. It is designed primarily to be used in connection with one of these textbooks as a source of case and example material, and it should be exceedingly useful in connection with any of them.

How does the book work? An illustration will show. Here is a chapter on

¹ Edwin J. Brown, *Everyday Problems in Classroom Management: A Case and Problem Book*. Boston: Houghton Mifflin Co., 1933. Pp. xvi+306. \$1.80.

"The Meaning of Education." Under the caption "Our Worthless Schools?" a rugged business man speaks his mind. He wants hirelings who are sufficiently docile and receptive. Then a robust theologian expresses his opinion under the heading "Brachiopod." He says the schools are suffering from brachiopod teachers. Brachiopod teachers "transmit their own minds but do not stimulate students to advance human knowledge" (p. 4). Questions follow each passage. One sample will suffice, under the theologian's utterance: "Should a teacher be held responsible for doing more than teaching carefully everything she knows?" (p. 4). Some student more sophisticated and facetious than the others might reply, "Why everything?" or "How could one?" But after the underbrush is cleared away, the adept instructor should be able to expose the cause of the quarrel between the critics. One wants skill and the other intelligence in the product of the schools. Which is to be preferred? Let us hope the conclusion is—both.

Between the covers of this book any instructor in classroom management will find concrete material that cannot fail to enliven his tutorial hours and stimulate thought on the problems of the course.

FREDERICK S. BREED

Stimulating educational undertakings by state subsidies.—During the past two decades a number of studies dealing with the problems of financing public education in the states of the United States have been published. Some of these studies have attempted to determine how effectively various plans of financing public education have met the changing social and economic conditions.

A recent study¹ compares the effect of earmarked state subsidies with non-earmarked subsidies in stimulating the introduction and the expansion of certain educational activities in fifty-six New York cities and villages. Earmarked subsidies made under the reward-for-effort system, which was in operation in the state of New York prior to 1927, are those granted to local districts on the condition that the funds be used for specific purposes, such as books, apparatus, and physical training. Non-earmarked subsidies are those made as a blanket appropriation under the equalization system which has been in operation in New York since 1927. The author compares the trends and exhibits the fiscal status of certain educational activities when they were earmarked, 1922-26, inclusive, and when they were non-earmarked, 1927-31, inclusive. The conclusion reached is that earmarking educational undertakings was no more successful in stimulating growth of these undertakings than a blanket subsidy based on the principle of equalization.

In addition to the comparison of the effect of earmarked and non-earmarked subsidies, the study includes a brief but clear statement of certain principles

¹ J. Wynne Wrightstone, *Stimulation of Educational Undertakings. A Study of School Support in New York Cities and Villages under Earmarked and Non-earmarked State Subsidy Plans*. Teachers College Contributions to Education, No. 562. New York: Teachers College, Columbia University, 1933. Pp. viii+76. \$1.50.

of state support for public education and an analysis of the factors and agencies which have influenced changes in expenditures for educational undertakings.

The study is well organized and presents statistical data which have a direct bearing on the problem under consideration. The author notes several factors which limit the conclusions of the study. First, it was necessary to confine the study to the favorable period of the business cycle. It does not represent the period of a business cycle generally known as a "depression," when there is a tendency to reduce school expenditures and retrench educational activities. Additional research comparing the status of educational activities during the past two or three years with the status of those same activities prior to 1927, when the equalization plan was put into effect, may reveal quite different results.

The author mentions another limitation of the study, namely, that certain habits and attitudes established when the reward-for-effort plan of distributing state aid was in operation may have contributed to the favorable results attributed to the operation of the equalization plan of distributing state subsidies. Undoubtedly, this possibility is an important factor to consider in evaluating the worth of this study. If the public becomes accustomed to certain services resulting from the introduction and development of particular educational activities, they probably will demand a continuation and further expansion of these activities regardless of the plan of distributing state aid, especially during periods of economic expansion and business prosperity. On the other hand, during periods of economic distress, when there is a tendency to retrench, the influence of certain habits and attitudes toward educational activities and expenditures may be modified regardless of the plan of distributing state subsidies which is in operation.

CARL B. ALTHAUS

UNIVERSITY OF KANSAS

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- Bulletin No. 17, 1932. National Survey of Secondary Education Monograph No. 6—*The Smaller Secondary Schools* by Emery N. Ferriss, W. H. Gaumnitz, and P. Roy Brammell. Pp. viii+236.
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A SIGNIFICANT VOLUME ON NATIONAL SYSTEMS OF EDUCATION

Beginning in 1932, Lord Eustace Percy, former president of the Board of Education in England, began the publication of a series of volumes entitled *The Year Book of Education*. Each of these volumes contains a vast amount of factual information with respect to the educational systems of the United Kingdom, the British Commonwealth of Nations, and other countries throughout the world. The editor of these yearbooks does not, however, confine himself to a mere compilation of facts; he and his collaborators have attempted the more ambitious task of interpreting their data. The result is that these yearbooks constitute an exceedingly worth-while continuing encyclopedia of education.

American readers will be especially interested in the volume for 1934. The following introductory statement by Lord Percy indicates something of its content.

Part I of this volume . . . attempts the ambitious task of outlining the educational systems of all countries. The United Kingdom is treated at length; the Dominions and the United States in a more condensed manner, but still with some attempt at statistical detail; and foreign countries in a nec-

essarily more summary fashion. The introductory chapters to the first and second sections of Part I attempt some interpretation of these educational systems. In Section III of this part an experiment has been made in the construction of certain comparative diagrams of education in leading British and foreign countries. For the rest, this part contains the usual chapters on the finance and law of education in the United Kingdom, supplemented by a detailed survey of educational expenditure in Scotland during the past twelve years, on the same lines as the similar survey of English educational finance in the volume for 1932. The summaries of education in the British Dominions and in the United States are admittedly fragmentary as compared with the United Kingdom chapters, a defect which we shall hope to remedy in the future; but the inadequacy of the Dominion summaries is to some extent made good, as we shall see, by the chapters in Section I of Part II.

Having thus, as it were, made good and completed the framework of facts in Part I, the Year Book proceeds in Part II to describe current events and to survey certain special features of education. Section I of this part summarizes events in the English-speaking nations during the last year or two, with special reference to the economic depression. This is followed by a more ambitious survey of one special subject, namely, secondary education in the English-speaking nations. This survey covers in more or less detail secondary and, to some extent, other forms of post-primary education in England and Wales, Scotland, Canada, and the United States. . . .

Section III may be regarded as a first rough and hesitating attempt to focus educational problems in terms of the revolutionary change which appears to be taking place in the conditions of Western civilization.

Section IV represents another new departure. It is an attempt at a detailed survey of a particular administrative problem: the arrangements in force throughout the British Empire for regulating the use of textbooks in schools maintained or aided by the state. For the information contained in this section we wish to express our particular indebtedness to the Departments of Education in all parts of the British Empire who have responded most generously to the inquiries addressed to them.

The remaining sections proceed on the lines of previous volumes. Omissions in those volumes are made good, as in the chapters on religious education in Scotland, music in English elementary schools, and the South African universities. The survey of education in the British Colonies is extended to Jamaica and British Malaya, and the survey of education in foreign countries to Spain, Austria, Finland, and the Catholic schools of France. The Spanish chapter may be regarded as taking its place in the series of studies of revolutionary education which has included, in previous volumes, Italy, Turkey, and Soviet Russia. The Austrian chapter may prove of particular interest as an authoritative and up-to-date account of a "democratic" experiment which has attracted particular attention since the war.

A COMPARISON OF SCHOOL ATTENDANCE IN THE UNITED STATES AND CERTAIN OTHER COUNTRIES

The Year Book of Education, 1934, to which attention was called in the preceding paragraphs, contains a body of significant information in diagrammatic form with respect to school attendance in a number of leading nations of the world. The factual data exhibited in the most significant of these diagrams are herewith presented, the diagrams being reduced to tabular form for convenience of presentation. The reader will appreciate the many difficulties involved in gathering comparative statistics of the type presented here. In *The Year Book of Education, 1933*, the reader was cautioned with respect to the qualifications which should be borne in mind in studying the diagrams, and the caution is repeated in the *Year Book of 1934*. Nevertheless, it is felt that the data are sufficiently reliable, for purposes of general comparison, to give a fairly accurate picture of certain aspects of school attendance.

One of the striking facts revealed in Table I is the great variation in school attendance of the three-to-seven age group. Evidently, preschool education is most highly developed in France and in those countries under French influence, such as Belgium, Holland, Italy, and Switzerland. There is considerable variation, too, in the percentages of pupils in the seven-to-fourteen age group attending school—more variation perhaps than one would have expected. But it is in the fourteen-to-eighteen age group that the most striking and significant variations occur. According to the figures here given, 33 per cent of the youth of this age group in the United States are in full-time school attendance, whereas the corresponding figures for England, France, and Germany are 16, 8, and 16, respectively. It seems likely, moreover, that the figures for the United States are too low. On this point exact statistical data do not seem to be available, but the Census of 1930 shows that 73 per cent of all youth aged fourteen to seventeen, inclusive, were attending school. Unfortunately, the Census figures do not differentiate between full-time and part-time attendance. The figures in Table I also reveal the extensive development of part-time continuation education in Germany and in certain countries under German influence.

Table II reveals the striking growth of secondary-school enrolment during the period from 1914 to 1930. It is obvious that most of the nations of the world are developing a more liberal policy with

TABLE I
PERCENTAGE OF YOUNG PERSONS ATTENDING SCHOOL IN THE
UNITED STATES AND CERTAIN OTHER COUNTRIES
IN SCHOOL YEAR 1930-31

COUNTRY	PERCENTAGE OF YOUNG PERSONS ATTENDING SCHOOL			
	3-7 Years of Age	7-14 Years of Age	14-18 Years of Age	
			Full Time	Part Time
United States	10	96	33	12
Austria	35	99	13	14
Belgium	74	99	20	13
Bulgaria	2	85	10	2
Czechoslovakia	30	90	8	20
Denmark	2	92	6	10
France	65	87	8	6
Germany	36	99	16	51
Greece	23	62	10	0
Holland	64	94	13	35
Hungary	43	88*	12	14
Italy	50	62	4	0
Japan	28	88	12	12
Norway	2	97	11	7
Poland	5	95	8	5
Russia	2	72	15	12
Spain	18	76	6	0
Sweden	2	96	14	38
Switzerland	62	99	20	45
England and Wales	50	99	16	15
Scotland	41	100	20	21
North Ireland	20	99	20	10
Irish Free State	45	90	25	15
Canada	11	100	30	15
Australia	20	94	26	8
New Zealand	33	95	30	10
British India	9	12	3	0

* In Hungary 16 per cent of the children in the seven-to-fourteen age group are in part time attendance

respect to the secondary education of their youth. A comparison of enrolment in the United States with that in other countries indicates in a most impressive way the unique character of American secondary education. It will be noted that for each 10,000 of the population the secondary schools of the United States enrol a great many

more pupils than do schools of like grade in any other nation, the figures for 1930 being, for example, 424 for the United States, 316 for Scotland, 245 for Australia, 241 for Canada, 156 for England and Wales, and 45 for France. In making deductions from these figures, the reader is again cautioned not to overlook the fact that in some

TABLE II

NUMBER OF PUPILS PER 10,000 INHABITANTS IN GENERAL SECONDARY SCHOOLS IN THE UNITED STATES AND CERTAIN OTHER COUNTRIES IN THE YEARS 1914, 1920, 1925, AND 1930

Country	1914	1920	1925	1930
United States	141	298	349	424
Austria		60	67	78
Belgium*	28	35	37	33
Czechoslovakia		74	74	64
Denmark	100	113	137	140
France*	35	39	43	45
Germany	97	125	134†	.....
Holland	32	37	43	54
Italy	21	24	25	36
Norway†	100	102	109	90
Poland		74	75	66
Russia	38	43	52	25
Spain	25	25	31	27
Sweden	87	120	121	119
Switzerland	68	66	77	82
England and Wales§	90	134	141	156
Scotland§	102	217	300	316
North Ireland		52	60	76
Irish Free State		70	76	192
Canada|| . . . . .	152	159	188	241
Australia¶	113	139	166	245
New Zealand	86	117	146	166
British India	21	25	37	34

* Public schools only.

† Data for 1926.

‡ Ages fourteen to twenty.

§ Includes preparatory schools

|| Includes preparatory schools in Quebec.

¶ Includes junior technical schools.

countries the secondary schools enrol pupils who in other countries would be enrolled either in the elementary schools or in the colleges.

Table III indicates that during the past two decades most countries have had steady but relatively slow increases in the percentage of the population in attendance at universities and higher technical schools. However, in certain countries, among them the United States, there are striking exceptions to this general tendency, the

percentages of increase being approximately 165 in the United States; 175 in North Ireland; 143 in Russia; 129 in Holland; 100 in Germany, Norway, and Canada; and 90 in Spain.

TABLE III

NUMBER OF STUDENTS PER 10,000 INHABITANTS IN UNIVERSITIES AND HIGHER TECHNICAL SCHOOLS IN THE UNITED STATES AND CERTAIN OTHER COUNTRIES IN THE YEARS 1914, 1920, 1925, AND 1930

Country	1914	1920	1925	1930
United States*	27	52	61	71
Austria		43	34	34
Belgium	15	17	16	20
Czechoslovakia		21	21	24
Denmark	11	10	12	11.5
France	11	14	14	18
Germany	11	23	17	22
Holland	7	9	11	16
Hungary	15	18	18	18
Italy	10	18	12	12
Norway	6	6	9	12
Poland		12	13	16
Russia	7	16	12	17
Spain	10	11	14	19
Sweden	11	12	13	14
Switzerland	22	26	23	27
England and Wales	7	10	11	11
Scotland	20	33	29	31
North Ireland	4	8	9	11
Irish Free State	7	11	10	12
Canada*	26	35	32	51
Australia	8	11	13	14
New Zealand	22	33	34	35
British India	2	2.5	3 5	3.5

* Junior colleges included in the United States and Canada.

THE RESTORATION OF SALARY SCHEDULES IN SEATTLE PUBLIC SCHOOLS

The Board of Education of Seattle has made public the following official statement with respect to the partial restoration of salary schedules which it has recently put into effect.

By unanimous vote, the board has directed, effective with the school month of February and payable on March 5 and succeeding monthly pay days, that a partial restoration of salaries and wages be made to all employees of the school district. This action will restore to educational salaries for the balance of this fiscal year approximately one-half the amounts by which they have been re-

duced below last year. It is further provided that no teacher shall be paid for the balance of this fiscal year at a rate of less than \$1,200 per annum. The action will also increase the compensation for members of the business-department staff by approximately 10 per cent above the present rates. The rate of increase in both departments is approximately the same, the different methods of application being due to a difference in schedules. At the same time the board specifically reserves the right to determine its wage and salary policy for next year in the light of revenue estimates at the time the budget is formulated, believing that it will continue, as in the past, to retain the confidence of the school staff in the determination of such policy.

When the budget for the current year was adopted last April, the board realized that it was confronted with a drastic decline in school revenues which had to be recognized by corresponding reduction of expenditures if the schools were to continue to operate without interruption. Because approximately 80 per cent of the outlay for school operation is necessarily devoted to salaries and wages, it was inevitable that the greatest burden of retrenchment should fall upon the school staff. Accordingly, salaries and wages for all employees of the school district were again reduced, the aggregate representing a downward adjustment more severe than those which were made in comparable lines of public service and in many other city school systems of the country.

While the board deeply regretted the necessity for this action, the results have been apparent in marked improvement in the financial condition of the school district. Expenditures have been held within the amounts budgeted, and receipts have fortunately been in excess of expectations at the time the budget was made.

The spirit of the entire school staff in carrying on has, in a large measure, the board believes, protected the children of Seattle from impairment of school efficiency under conditions of severe retrenchment. This loyalty offers additional reason for carrying out the board's intention expressed last spring at the time the budget was formulated of relieving the severity of reductions in compensation as soon as revenues were such that this could be done without impairing the continued improvement of the district's finances, which the board considers absolutely essential.

The board believes its action in making an upward adjustment of compensation at the present time to be in line with the general movement toward recovery, and takes pleasure in the fact that the co-operation of its entire staff has made such an action possible.

THE UNIQUE BUILDING PROBLEM OF CALIFORNIA SCHOOLS

As a result of the earthquake at Long Beach, a unique situation has developed in California with respect to school buildings. The legislature of that state has passed a statute, popularly known as the Field Bill, which attempts to eliminate earthquake hazards by re-

quiring all school buildings to conform to certain prescribed standards. At the present time the plants of the school systems are in the process of examination by the State Division of Architecture, and the school authorities are finding it necessary to house a great many pupils in temporary quarters until they are able to provide adequate permanent buildings for their pupils. Approximately 95 per cent of the pupils of Long Beach are housed in canvas tents and temporary wooden structures. Los Angeles is spending somewhat more than a million dollars for temporary accommodations for its pupils. Berkeley has found it necessary to accommodate three thousand pupils in canvas tents and temporary wooden buildings and to spend in excess of \$50,000 in purchasing this temporary equipment and in having building surveys and estimates made. The disorganization and the expense entailed in carrying the provisions of the law into execution are unfortunate at this particular time, but neither the state legislature nor the school authorities could escape the responsibility of safeguarding the lives of the school children of the state.

THE ORGANIZATION OF EFFECTIVE INSTRUCTIONAL MATERIALS ON THE PROBLEMS OF TAXATION

Students of public finance have frequently pointed out in no uncertain terms the injustice and the inefficiency of the system of taxation which prevails in the great majority of the American states. During the past few years almost every American community has experienced difficulty in maintaining anything like adequate public services, and that difficulty has been chargeable in large measure to the system of taxation employed in raising the public revenue. It is perfectly patent that the tax base which we are employing today is unable to support the expanding structure of government enterprise. Nevertheless, tax reform is particularly difficult, and it will remain difficult until the average citizen has some understanding of the elementary principles of taxation.

Obviously, taxation is a matter which the schools have too long neglected. The probable reason for this neglect has been that adequate instructional materials have not been available. There is real need for a treatment of the relation of taxation to organized society in such simple form that it can be made the basis of instruc-

tion in both the upper grades of the elementary school and in the high school. Such a treatment might well begin with the simplest forms of social organization and show how even in the most primitive societies the individual is called on to make personal sacrifices for the welfare of the group. It should show how in different places and in different times the individual has been required to support in some measure such public enterprises as were deemed indispensable for the public welfare. As the more modern period is reached, attention should be centered on the forms of taxation in operation in the pupil's own community and in other communities. In this way an attitude could be built up in the pupil which would cause him to regard the payment of taxes not as a thing to be avoided where possible but as a duty which he owes to society. The pupil would be brought to see that taxation is merely an instrument which society employs to purchase goods and services for the individual in a more economical and effective way than he can purchase them for himself. The study of the history of taxation as a social institution would show the pupil how the increasing complexity of society necessitates a larger expenditure for public services. He could be brought to realize too that it is absolutely necessary for every citizen to assume responsibility for the justice and equity of the tax system and for the proper and honest expenditure of public funds.

A brochure has recently been published which makes a real contribution to the study of the problems of taxation along the general lines suggested in the preceding paragraph. It was sponsored by the Committee on Taxation of the Northern Illinois Conference on Supervision and was prepared by Professor Walter Wellman Cook, of the Eastern Illinois State Teachers College. The following quotation from the Foreword indicates the purposes that the committee had in mind in having the brochure prepared.

It is probable that since the Boston Tea Party unjust taxation has been the cause of more political commotion in the United States than any other cause. Despite this fact, very little attention has been given to the subject in our public elementary and secondary schools. Taxation has been considered a difficult subject, to be dealt with only in college classes in economics and political science. As a result of this policy few people understand the interrelations of government, taxation, and the economic life of the people. Few people know what taxation is and what the essential principles of just taxation are. It is probable that rela-

lively few people in Illinois know the different forms of taxation used in the state, and which of these forms are considered just, and which are considered questionable. When the people of a democratic state fail to understand the fundamental problems of government which taxation presents, the result is likely to be an unjust distribution of the costs of government, political corruption, the wasteful spending of public money, the curtailment of essential governmental services, and governmental bankruptcy.

This brochure was sponsored by the Committee on Taxation of the Northern Illinois Conference on Supervision in the conviction that a wider knowledge of the facts regarding taxation on the part of pupils in the upper grades and high schools throughout Illinois will result in less political commotion and more progress in the establishment of a just system of taxation in the future than in the past.

The brochure is written in clear, simple language which can be understood by upper-grade and high-school pupils. A chapter is devoted to each of the following topics: the development of governmental services and taxation, the history of taxation in Illinois, the tax system of Illinois, the administration of the general property tax in Illinois, the control of local governmental expenditures in Illinois, and summary and recommendations. This brochure should be made available for every upper-grade and high-school pupil in Illinois. It should, moreover, prove suggestive to school people outside Illinois who may be interested in organizing concrete instructional materials on the problems of taxation in their respective states. The brochure is entitled *The Tax Problem in Illinois* and may be secured from George E. Thompson, superintendent of schools, St. Charles, Illinois. The price is fifteen cents.

MAKING THE CURRICULUM CONTRIBUTE TO SOCIAL UNDERSTANDING

The Citizens League of Cleveland, through its Schools Committee, has recently made a survey of citizenship training in the Cleveland public schools. The committee's discussion of the need, the purposes, and the methods of citizenship training is so lucid and pointed that it warrants quoting at some length.

Never in the history of the country was there greater need of substantial groundwork in the facts of government and politics, and the ethical principles underlying good citizenship, than at the present. The future citizen coming out of American schools and colleges finds himself in the midst of a highly mech-

anized industrial world, progress in which has far outstripped the political and governmental machinery set up to control and govern such industrial development. He finds himself surrounded by a social environment which has almost completely changed, even while he was getting his education. He is confronted with economic conditions which defy governments and economic laws; and as he leaves school and college he is told that he is on the threshold of the greatest social and economic change the country has ever known. Yet he goes out into this changing world without even the educational foundation for understanding and interpreting the political problems facing him as a citizen. . . .

Most school authorities used to regard the obligation of citizenship training as having been fulfilled when the student, at some period in his course, was made acquainted with the facts relating to the formation and development of the Constitution and the forms of local government. But even in those cases where elementary courses in economics and sociology were taught, the presentation of the facts was usually most incomplete. Whole phases were left out entirely. For example, the student was not made acquainted with the practical operation of politics and government, the wrong methods used to elect favored candidates, the hidden influences at work to lead public officials to betray their trust, the subtle use of propaganda camouflaged as fact by well-organized special interests, and the extent of party-organization control by corporate wealth. These facts are as much a part of the economic, political, and social history as are the facts regarding the framework of the Constitution and the organization of the administrative departments for carrying on the functions of government.

Moreover, most modern educators are beginning to realize that it is not enough merely to supply the pupil with information about government and society. He must be inspired to be a worthy member of the social order and to participate actively in the duties of citizenship. As John Ruskin has said: "Education does not mean teaching people what they do not know. It means teaching them to behave as they do not behave." It means educating the pupil for, and training him in, citizenship and not merely telling him about citizenship.

Citizenship is an art, and its practice requires training. It involves an ideal which must be made a part of the character of students, and not merely a part of their understanding. . . .

It follows then that our education for citizenship must be twofold: (1) It must prepare the individual for a useful occupation; and (2) it must prepare him to participate in government, either actively as an office-holder or indirectly through the choice of those who govern.

The full program of social education which this view of citizenship entails would involve the whole curriculum from kindergarten to college and more. It would call upon many agencies outside the public schools, such as the home, the church, the political and commercial associations, to share the task. The public school alone cannot support the whole burden of this social education; but there is a very important rôle which it must assume, and the public-school curriculum

must make provision for fulfilling its function adequately. It involves, we believe, three things; first, instruction in social facts and principles; second, inculcation and stimulation of the ideals which are inseparable from democratic government; and, third, actual practice in the arts of self-government. . . .

In other words, training in citizenship consists, as someone has said, of the triple purposes; *information*, *inspiration*, and *participation*. Citizenship training which has merely acquainted the pupil with the facts regarding government and society has largely failed. It must instil in him a desire to be a worthy member of society and also create in him a sense of responsibility which will be satisfied only by his personal participation in the government under which he must live and work. . . .

Citizenship training with only the practice side adequately developed is, however, only partial citizenship education, which does not adequately equip the future citizen to cope successfully with the difficult economic, social, and political problems of an industrial age. These problems are entirely too complicated to be solved merely by practice in co-operation, important as that practice is. Skill in co-operation is good, in fact, essential; but it must be supported by a knowledge of history—how people and nations have lived and progressed; what effect geography and physical environment have had on civilization; how economic laws operate in an industrial society; how nations become dependent upon each other as distances are wiped out by modern means of transportation and communication; how interdependent the people of all nations and parts of the world have become through trade and travel; how important a part culture and leisure play in the modern world; what are the forces and influences at work all the time to prevent the progress of citizenship ideals; and those other features so essential a part of the knowledge of the world about us. We realize that a comprehensive knowledge of all of these facts and subjects cannot be taught in the public schools; but the pupils can at least be made acquainted with the rudiments.

But even the fact content and the practice in co-operation are not enough. True citizenship involves other elements, ideals, attitudes, and habits—those elements of character which, supported by information, lead the pupil to a life of eager service and responsibility in the community in which he lives. These habits and attitudes can be inculcated only by a consistent, continuous, and well-planned course of citizenship education continuing throughout the school course.

If the public-school authorities of the country could be brought to realize fully the effect on public opinion of such a well-rounded course in citizenship training, and could be brought to give such training the prominence in the curriculum which Horace Mann and other educational statesmen believe it should have, one generation of such training would work a revolution in our whole public attitude toward government and politics.

The trouble has been as Walter Lippmann points out that: "Democracy has never developed an education for the public. . . . It has not taught the child

how to act as a member of the public. . . . The result is a bewildered public and a mass of insufficiently trained officials. . . . The public at large has had no coherent political training of any kind. Our civic education does not even begin to tell the voter how he can reduce the maze of public affairs to some intelligible form."

With respect to citizenship training in the Cleveland public schools, the league's Schools Committee makes the following recommendations:

1. The appointment by the Board of Education of a fairly large committee composed in part of well-trained and experienced teachers in this field of work and in part of citizens outside of the teaching staff, to make the necessary surveys and undertake the task of preparing a course of social studies for all grades in the public schools.

2. The employment by the Board of Education of a well-trained and experienced person who can direct the surveys and do the detailed work in developing such a course of social studies.

3. The assignment to this social-studies committee of the following specific tasks: (a) to investigate the social-study courses and citizenship work in the leading school systems of the country; (b) to examine into the extent of student participation in school government and activities in the school systems of the country, (c) to develop a course of social studies for all grades of the public schools; and a plan for co-ordinating, in so far as practicable, all of the extra-curriculum activities and integrating them with the social studies; (d) to work out a plan of effectively utilizing the facilities of public offices and community organizations as laboratory material in citizenship education; (e) to work out a plan by which adequate observance of patriotic holidays, granting of civic honors, etc., can be conducted as a means of developing citizenship ideals, (f) to investigate the devices which will motivate social activity and fit them into the educational process; (g) to devise a plan by which there may be a continuous collection and preparation by the public, reference, and school libraries of material for use in citizenship-training work.

4. The committee should evolve plans and provisions for the adequate training of teachers to prepare them for the teaching of these social-studies courses.

5. The direction of such a continuing course of social studies should be placed under the supervision of a thoroughly trained and experienced director who will devote his entire time to supervision of social-studies or citizenship-training courses.

But a carefully planned and modern social-studies course will not of itself accomplish the desired results. There must be a corps of teachers well trained in history, sociology, and political science, and under expert supervision, who will be able to utilize not only their broad knowledge in teaching but all of the facilities of the community in illustrating the practical side of citizenship relations.

A social-studies committee as suggested will have the advantages of a number of recently well-developed courses of studies in other cities; and also the reports, soon to be issued, of the Commission on Social Studies sponsored by the American Historical Society and the Political Science Association and composed of some of the foremost political scientists and educators in the country.

The introduction of a well-developed course of citizenship training in the twelve grades of the public schools will not mean a large addition to school costs. The teaching staff will have to be increased only in the supervision. The same teachers (with some intensive training) will teach these courses as they teach other courses.

We feel that this primary function—training in and for citizenship—of the schools should be no longer neglected in Cleveland. For that reason we are urging the Cleveland Board of Education to take immediate steps to create a committee of teachers and citizens as suggested above, so that it can proceed at once to the consideration of this important matter of citizenship education.

THE USE OF VISUAL AIDS IN THE TEACHING OF GEOGRAPHY

In a recent number of *Pittsburgh Schools*, Frank M. Gatto, assistant director of the Department of Curriculum Study and Educational Measurement and Research in Pittsburgh, reports the results of two experiments in the use of visual aids in the teaching of fifth-grade geography. The general purpose of these investigations is described as follows:

The two studies reported here constitute an attempt to appraise the effectiveness of visual materials as learning aids in fifth-grade geography. The acquisition of information is the criterion upon which the appraisal sought by these studies is based.

While the studies were conducted at different times and touch upon different questions, they are discussed in the same report because of the relationship which the problems will later be shown to bear to each other.

The first experiment seeks to discover the comparative effectiveness of instruction in geography when lantern slides, still films, and stereographs are used as the only visual aids and when they are used in conjunction with motion-picture films.

Obviously, the purpose of this study is to find if and to what degree instruction in geography is rendered more effective when the more common visual aids are supplemented by motion pictures. Such a problem is one of practical significance when one considers the investment required to supply films and motion-picture apparatus, the time and effort needed to train teachers in the use of such equipment, and the care necessary for the proper maintenance of films and projectors.

The second is an attempt to determine the comparative effectiveness of in-

struction in geography when lantern slides, still films, stereographs, and motion-picture films are utilized and when no visual aids are used. The question involved is the contribution of all the visual aids mentioned when used as a supplement to the usual text materials available in the classroom. It is of definite value to have reliable information on the extent to which the aids mentioned increase the effectiveness of learning. Of course, a multitude of other problems suggest themselves as pertinent and worthy of study, but the two mentioned were considered of immediate interest and were, therefore, chosen for experimentation. Before presenting a detailed account of the present investigations, reference will be made to some of the work which has been done by other experimenters on the use of visual aids in teaching.

The following statement summarizes the general conclusions drawn from the two investigations.

The conclusions which may be drawn from the results here summarized are subject to all the limitations inhering in the investigations which have been described. From the results of these studies, it would appear that, in so far as the acquisition of information is concerned, the addition of motion-picture films to lantern slides, still films, and stereographs increases learning by about 14.5 per cent with the chances of a true difference in favor of the group using motion pictures being 98 in 100. In the reading of geographical material, in problem-solving, and in the reading of maps and graphs, the differences resulting from the presence and absence of motion-picture films when the other items of visual equipment mentioned remain constant, are such as to indicate no definite advantage to either plan. However, when all the visual aids enumerated are used, the consequent increase of information is practically 23 per cent greater than the amount of information accruing in the absence of such aids. This difference is statistically reliable and obtains when gains are measured by an information test following the instructional period immediately. A similar test, administered five weeks later, shows an additional gain of 11 per cent for the visual-aids group but a loss of 11 per cent for the other groups. When comparisons of gains are made as between the initial test and the test of delayed recall, the visual-aids group exceeds the other by a statistically reliable difference of about 54 per cent.

AN EXPERIMENT WITH A ONE-FIGURE DIVISOR IN SHORT AND LONG DIVISION. I

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It has been the common practice in the elementary school to teach division by a one-figure divisor in the short form. After the pupils have achieved a certain degree of mastery with a one-figure divisor, division has been taught in the long form with a two-figure divisor. Until recently little scientific experimentation had been carried out which enables one to give an appraisal of this procedure. It is probable that the use of a uniform procedure with all divisors would produce better results than the teaching of two different forms.

The study reported in this article was made to determine the relative speed and accuracy of pupils when using the long form and the short form with a one-figure divisor. No attempt was made to determine which form is easier for pupils to learn. All the subjects used in this investigation had been taught to use short division when dividing by a one-figure divisor. The problem, then, was to determine whether the group of pupils who had learned to divide by the short form could make better scores in speed and accuracy when the long form was used with a one-figure divisor.

Although the common practice has been to teach the short form for division by a one-figure divisor, within the past few years there has developed a mass of expert opinion and experimental evidence to challenge the validity of this practice. Buckingham found that five of the six members of the arithmetic committee for the Twenty-ninth Yearbook were in favor of teaching the long form for division by a one-figure divisor.¹ The sixth member was not opposed to the long form, but he considered the experimental evidence insufficient to justify a change from the short form.

¹ B. R. Buckingham, "The Training of Teachers of Arithmetic," *Report of the Society's Committee on Arithmetic*, p. 376. Twenty-ninth Yearbook of the National Society for the Study of Education. Bloomington, Illinois: Public School Publishing Co., 1930

Morton questions the practice of teaching short division before teaching the long form. He illustrates how the pupil must deal with unseen numbers when he solves an example by short division.

If a pupil is learning to solve the example $\begin{array}{r} 146 \\ 6 \overline{)876} \end{array}$ by short division, he must think of a 2 left over after the first division, must visualize the 2 which he cannot see prefixed to the 7 which he can see, must think, "How many 6's in 27?" must subtract an invisible 24 from a partially visible 27, etc. This is difficult, very difficult for third-grade children. But if the solution is written out in the customary long-division form, there is less left to mental imagery, the steps in the process are clearly portrayed, and the pupil will master the elements of a difficult process without the unfortunate condition of initial discouragement.¹

Myers assumes that tradition is the chief factor which dictates the sequence for the form of division: "The only reason I can see for beginning long division second, and for making it so hard by using a two-digit number as a divisor, is that it has always been done that way before."²

Ballard has given some timely suggestions about the adoption of a uniform procedure or rule for any given process. He calls a uniform procedure the "King's Highway." The criteria for this uniform procedure are as follows:

It should be simple, it should be easy, it should be safe, and it should be universally applicable. When I say it should be simple and easy, I am speaking relatively; what I mean is that it should have no *unnecessary* complications and no *unnecessary* difficulties. The method having been carefully and definitely chosen, it should be regarded as the King's Highway which all should learn to tread before they venture upon bypaths and short cuts.³

Ballard further states: "It is wrong to regard long and short division as two distinct rules. They are not. There is only one rule; and that is long division."⁴

Johnson⁵ recommends that the long-division form for a one-figure

¹ Robert Lee Morton, *Teaching Arithmetic in the Primary Grades*, p. 168. Newark, New Jersey: Silver, Burdett & Co., 1927.

² Garry Cleveland Myers, "Beginning Long Division," *Grade Teacher*, XLVII (March, 1930), 542.

³ Philip B. Ballard, *Teaching the Essentials of Arithmetic*, p. 45. London: University of London Press, 1928.

⁴ *Ibid.*, p. 170.

⁵ T. J. Johnson, "Short Division or Long Division First?" *Chicago Schools Journal*, XII (October, 1929), 55-56.

divisor should be taught first because it will facilitate the work with a two-figure divisor. He states that, if the short-division form is taught, it should be introduced as a short-cut procedure after the longer form is known.

Although the views set forth by the men quoted are subjective and are not supplemented by experimental evidence, the opinions of recognized authorities cannot be ignored in forming an appraisal of a given procedure.

Two experimental studies which treat of the use of a one-figure divisor have been reported. John made a study with two groups of fourteen pupils each from a fifth-grade class at the University Elementary School, University of Chicago. Group 1 was taught to divide by a one-figure divisor by the short form, and Group 2 was taught to use the long form for the same type of divisor. After instruction in division by one-figure divisors had been given for one week, both groups were taught to divide by two-figure divisors. The results obtained from using the two notations for one-figure divisors are summarized by John as follows:

1. Before the pupils were taught to divide by two-digit numbers, Group 1, the group dividing by one-digit numbers by means of the short-division form, showed greater speed, and Group 2, the group using the long-division form, showed greater accuracy.¹
2. After division involving divisors of two or more digits had been taught, the pupils who were taught to use the long-division form in dividing by one-digit numbers were able to solve examples with either kind of divisor more rapidly and more accurately than the pupils who were taught to use the short-division form in dividing by one-digit numbers.
3. The pupils who were taught both forms tended to use the long-division form in all examples regardless of the fact that they had been taught to solve examples with one-digit divisors by means of the short-division form.²

John concludes that division by any divisor should be taught at the beginning in the long-division form and that, when this method has been learned, the short-division method may be taught as a short cut.

Olander and Sharp tested a group of 1,265 pupils in Grades IV-XII, inclusive, to determine which form is superior for a one-figure

¹ Leonore John, "The Effect of Using the Long-Division Form in Teaching Division by One-Digit Numbers," *Elementary School Journal*, XXX (May, 1930), 682-83.

divisor. They gave two different tests. The first test contained five difficult examples having one-figure divisors and two examples having two-figure divisors. The pupils were told to solve the examples, but no instructions were given specifying whether long or short division should be used. The second test contained ten examples, five of which were to be solved by the short-division form and the remaining five by the long-division form. The results of the tests are summarized as follows:

1. Three out of four pupils from Grades IV to XII, inclusive, chose to work difficult examples in division with single-digit divisors by long division. . . .
2. Little difference in choice of method could be attributed to the grade in school to which a child belonged. High-school pupils varied little from those in the elementary school. . . .
3. A slightly stronger tendency toward short division on the part of good students both in the elementary- and high-school grades was observed.
4. Pupils used the long-division method with greater accuracy.¹

As a result of these experiments, Olander and Sharp arrived at about the same conclusion as that given by John. They state:

Teachers should not only teach long division first but teach it as the regular method that will be used by the majority of the pupils. Short division can then be taught as a short cut to be used particularly with comparatively easy examples. Especially the better pupils may be advised to employ the short method.²

The views expressed by the authorities cited and the results of the two experimental studies indicate that the long-division form is superior to the short-division form for a one-figure divisor. If the latter form is taught, it should be taught as a short cut, preferably to the more gifted pupils and for use with easy examples. The experiment by Olander and Sharp gave no consideration to the factor of time. In the experiment conducted by John the time was recorded and found to favor the long-division form. However, the experimental groups in John's study were too small to produce particularly reliable results. The writer, therefore, constructed a test in which easy and difficult division examples were included and in which both accuracy and speed were to be measured for each pupil taking the test.

¹ Herbert T. Olander and E. Preston Sharp, "Long Division versus Short Division," *Journal of Educational Research*, XXVI (September, 1932), 11.

² *Loc. cit*

CONSTRUCTION OF THE TEST USED IN THIS STUDY

Olander and Sharp state that one part of their test consisted of five easy and five difficult examples in division, but they give no explanation of what constitutes an easy or a difficult division example with a one-figure divisor. There are no experimental studies which rank the division facts in the order of difficulty. Hence, the determination of an easy or a difficult division example with a one-figure divisor is subjective. The writer's opinion is that the thing which makes short division difficult is the higher-decade subtraction for finding the carry-number. Higher-decade subtraction is used when a two-figure number which is a multiplication product is subtracted in one mental operation from another two-figure number and the remainder is a one-figure number. Thus, $57-54$ represents a higher-decade subtraction fact in division, but $57-53$ does not because 53 is not a multiplication product. It is readily seen that the example may or may not involve bridging the decade. The example $52-45$ represents one which bridges the decade, but $49-45$ does not span the decade. In this study a difficult division example is one in which all the higher-decade subtractions used to find the carry-numbers bridge the decade. An easy division example is one in which the subtractions do not bridge the decade and in which the remainders do not exceed three. A priori reasoning would lead to the conclusion that, when two two-figure numbers in the same decade are subtracted and the remainder is 1, 2, or 3, the example should be relatively easy.

The test which was constructed consisted of two parts. Part I included a sampling of examples which have been defined as easy examples, and Part II contained a sampling of the difficult examples with one-figure divisors. In each part there were fifteen examples, five of which contained four figures in the quotient and the remaining ten, three figures. A pupil in Grade IV is supposed to be able to divide numbers that contain at least four figures in the quotient.¹ As no duplications of any division fact appeared in the test, there was a sampling of 100 different facts out of a possible 450 division

¹ *A Teacher's Guide Book and Course of Study in Arithmetic*, pp. 124-27. Trenton, New Jersey: State Department of Public Instruction, 1930.

facts with a one-figure divisor. The latter number includes all zero types and also a divisor of 1.

Various types of difficulties were sampled in the test. In Part II all the examples contained remainders because each subtraction was planned to bridge the decade. In Part I some of the examples did and others did not have remainders. Zero types were also represented in this part of the test. Zero was found in the following positions: (1) final in both dividend and quotient, (2) final in quotient only, (3) not final in dividend only, and (4) not final in quotient only. In the second part of the test another zero type, not included in Part I, was included, namely, the type in which zero was final in the dividend only.

The test was constructed in two forms, known as Form A and Form B. The examples were identical in both forms, but in Form A the short-division form was to be used and in Form B, the long-division form. The following examples were used in these two forms.

PART I

a. $3\overline{)2844}$	b. $5\overline{)7826}$	c. $2\overline{)1714}$	d. $7\overline{)45663}$
e. $4\overline{)1546}$	f. $8\overline{)5785}$	g. $9\overline{)7589}$	h. $4\overline{)27322}$
i. $6\overline{)2761}$	j. $9\overline{)8389}$	k. $7\overline{)6595}$	l. $5\overline{)3704}$
m. $6\overline{)7838}$	n. $3\overline{)2297}$	o. $2\overline{)5900}$	

PART II

a. $7\overline{)4031}$	b. $9\overline{)21211}$	c. $7\overline{)5100}$	d. $8\overline{)2215}$
e. $9\overline{)31121}$	f. $6\overline{)2031}$	g. $9\overline{)2230}$	h. $8\overline{)50300}$
i. $6\overline{)4101}$	j. $9\overline{)4220}$	k. $8\overline{)21431}$	l. $7\overline{)6124}$
m. $8\overline{)5102}$	n. $7\overline{)31352}$	o. $9\overline{)2303}$	

The examples were lettered instead of numbered in order that the pupils would not confuse the number of an example with the divisor. The quotient was written above the dividend in the short form because the pupils used in this study had been taught that notation. If the classes tested had been taught to write the quotient below the dividend in short division, that form would have been used in this test.

ADMINISTRATION OF THE TEST

Forms A and B of the test were given in Grades V–XII, inclusive, and to students in each year of a three-year normal-school course. These latter three years will be designated in this article as Grades XIII, XIV, and XV. No distinction was made between the first and the second half-year sections of a grade; that is, scores for the pupils of Grade VIII may have been made by pupils who had been in the grade since September, by those who had been in the grade since the first of February, or by a combination of both groups. Since most of the promotions in the schools tested were made in September, the largest sampling is from that group. The test was given during the month of March, 1933. Grade V was the lowest grade in which the test was given because of the difficulty in using a one-figure divisor in the long-division form encountered by pupils in a grade below the fifth. None of the groups tested had been taught to use the long form for a one-figure divisor.

Pupils in Grades V–XII were taken from the public schools of two school systems near Jersey City, and for the upper three grades students were selected from the normal schools at Jersey City and Newark. An attempt was made to have approximately one hundred students in each grade take each form of the test. In some grades it was feasible to test more cases than the assigned number, and in others there was a shortage of the arbitrarily fixed number.

All the tests were administered by the regular classroom teachers or teachers of mathematics in the different schools under the supervision of the writer. A set of uniform instructions, which was to be read to the class when the test was administered, was given to each teacher. Beyond the level of Grade VII the whole test was completed in one class period. In Grades V–VII, inclusive, Part I was completed at one class period, and on the following day Part II was administered. Two test periods were used in the latter grades in order that the regular schedule of classes need not be interrupted. To have completed the whole test at one working period in these grades would have required an extension of a regular class period.

When the tests were distributed, alternate pupils in each group received Form A, and the remainder received Form B. The former group was to use the short-division form and the latter, the long-

division form. The operation of the laws of chance was supposed to form equivalent groups. According to McCall, this method for forming equivalent groups is satisfactory:

Just as representativeness can be secured by the method of chance, when the subjects involved are sufficiently numerous, so equivalence may be secured by chance, provided the number of subjects to be used is sufficiently numerous. . . . Any device which will make the selection truly random is satisfactory.¹

The use of every alternate pupil made the method of selection truly random; hence, it may be assumed that equivalent groups were formed. Since the educative factors affecting achievement were held constant in each group, any difference in the achievements of the two groups would be due to the experimental factor, namely, the type of notation used.

Before beginning the test, pupils using Form A worked a sample example by using the short-division form; those using Form B solved the same example by the long-division form. A sample was also shown on the first page of the test. The teacher instructed the pupils to work as rapidly as possible but to be sure that their work was accurate. He further instructed them to record at the bottom of Part I of the test the last number written on the board and then to put their pencils down before beginning Part II. When all had finished Part I, a similar procedure was followed for Part II. After work was begun on each part of the test, the teacher wrote consecutive numbers on the board at fifteen-second intervals until the slowest pupil in the group had finished the part of the test on which he was working. Thus, if 14 was written at the bottom of Part I of a test, the pupil had required 35 minutes to complete that section of the test. In the following pages all scores for time are given in fifteen-second intervals instead of minutes. The use of these interval numbers eliminated the necessity of dealing with fractional parts of a minute.

The accuracy of the work was measured by the lack of errors in the test. An error consisted in an incorrect figure in the quotient or in the remainder. The pupil was instructed to write the remainder as a remainder and not as a fraction. Thus, the result for the ex-

¹ William A. McCall, *How To Experiment in Education*, pp. 41-42. New York: Macmillan Co., 1923.

ample $3\overline{)521}$ should be written as $173 + 2$ and not as $173\frac{2}{3}$. However, if the fraction form was used and the correct figures were given, the example was considered correct. There were 100 quotient figures and 27 remainders, or a total of 127 possible errors. A pupil's test score was not penalized because of the use of crutches or devices provided the correct figures appeared in the quotient and in the remainder. A large percentage of the pupils working Form A used the crutch of writing down the carry-number in the dividend.

TABLE I

MEAN NUMBER OF ERRORS AND MEAN TIME IN FIFTEEN-SECOND INTERVALS
MADE BY SUBJECTS IN GRADES V-XV ON FORMS A AND B
OF TEST IN DIVISION

GRADE	FORM A (SHORT-DIVISION FORM)			FORM B (LONG-DIVISION FORM)		
	Number of Cases	Mean Number of Errors	Mean Time in Fifteen-Second Intervals	Number of Cases	Mean Number of Errors	Mean Time in Fifteen-Second Intervals
V.....	111	21.60 ± 1.050	89.86 ± 2.660	100	17.52 ± 0.940	115.70 ± 3.181
VI	109	17.91 ± 0.870	70.32 ± 1.862	102	14.27 ± 0.874	85.10 ± 2.000
VII	144	15.79 ± 0.765	62.12 ± 1.220	136	9.21 ± 0.538	72.32 ± 1.320
VIII.. ..	104	11.37 ± 0.670	54.54 ± 1.250	96	7.06 ± 0.508	64.17 ± 1.215
IX	140	11.10 ± 0.487	44.78 ± 0.757	135	6.48 ± 0.408	53.29 ± 1.676
X... ..	101	10.27 ± 0.629	42.46 ± 0.763	102	6.16 ± 0.475	51.69 ± 0.801
XI	107	7.50 ± 0.405	36.44 ± 0.625	107	3.63 ± 0.235	40.31 ± 0.689
XII.. ..	116	11.03 ± 0.675	34.09 ± 0.543	106	5.26 ± 0.352	39.64 ± 0.614
XIII.. ..	103	9.52 ± 0.485	39.44 ± 0.613	110	5.42 ± 0.364	41.17 ± 0.585
XIV.. ..	88	8.63 ± 0.429	37.60 ± 0.675	87	3.46 ± 0.226	40.81 ± 0.690
XV.. ..	82	9.48 ± 0.467	36.73 ± 0.700	79	3.45 ± 0.259	42.28 ± 0.647

RESULTS OF THE TEST

The mean number of errors and the mean time for each grade on both forms are given in Table I. This table shows that more errors were made on Form A but that less time was consumed in working the examples than on Form B.

It is advisable to determine whether the differences in the mean number of errors and in the mean time on the two forms for each grade are significant. The usual technique applied is to find the

probable error of the difference of the means of the two tests. This probable error is found by using the following formula.¹

$$P.E.M_1-M_2 = \sqrt{(P.E.M_1)^2 + (P.E.M_2)^2}$$

The probable errors of the differences of the means found by the use of this formula are given in Table II. The difference between the two

TABLE II
COMPARISON OF DIFFERENCES IN MEAN NUMBER OF ERRORS AND MEAN
SCORES ON TIME ON FORMS A AND B OF TEST IN DIVISION

GRADE	NUMBER OF ERRORS			SCORES ON TIME		
	Difference in Means*	Probable Error of Difference	Ratio of Difference to Its Probable Error	Difference in Means*	Probable Error of Difference	Ratio of Difference to Its Probable Error
V.	+4.08	1.408	2.90†	-25.84	4.147	6.23
VI.	+3.64	1.233	2.95†	-14.78	2.733	5.41
VII.	+6.58	0.935	7.04	-10.20	1.800	5.67
VIII.	+4.32	0.841	5.12	-9.63	1.743	5.52
IX.	+4.62	0.635	7.28	-8.51	1.015	8.38
X.	+4.12	0.788	5.22	-9.23	1.106	8.35
XI.	+3.87	0.468	8.27	-3.87	0.930	4.16
XII.	+5.77	0.761	7.58	-5.55	0.819	6.78
XIII.	+4.10	0.606	6.77	-1.73	0.847	2.04†
XIV.	+5.17	0.485	10.66	-3.21	0.965	3.33†
XV.	+6.03	0.534	11.29	-5.55	0.953	5.82

* The differences preceded by a plus sign favor the long-division form, those preceded by a minus sign, the short-division form.

† Not a significant difference

means was then compared with its probable error. When this difference is at least four times its probable error, there is more than a chance difference in the difficulty of the two forms. Table II shows the ratio of the difference of the means to its probable error in each grade. It is readily seen that there was a significant difference in accuracy in favor of the long-division form in every grade except Grades V and VI. As a general rule, the farther away from the grade in which short division was taught, the more pronounced was the difference in favor of the long form.

¹ Karl J. Holzinger, *Statistical Methods for Students in Education*, p. 235 Boston: Ginn & Co., 1928.

From the standpoint of time, in all the grades except two there was a significant difference in favor of the short-division form. However, there was a tendency for the difference in time to be less significant the farther removed were the subjects from the grade in which short division was taught. These data point conclusively to long division as the desirable form for accuracy and short division for speed. They also show that short division is in its most effective period from the standpoint of both speed and accuracy at or near the grade level at which it is taught. In other words, the bonds formed in short division are temporary, and they need much practice to keep them functioning properly.

TABLE III
NUMBER OF PAPERS WITHOUT ERRORS ON FORM A (SHORT-DIVISION FORM)
AND FORM B (LONG-DIVISION FORM) IN GRADES V-XV

GRADE	NUMBER OF PAPERS WITHOUT ERRORS		GRADE	NUMBER OF PAPERS WITHOUT ERRORS	
	Form A	Form B		Form A	Form B
V	0	4	XI.	13	37
VI.	1	11	XII.	12	31
VII.	5	20	XIII.	5	28
VIII.	5	20	XIV.	6	28
IX.	5	30	XV.	4	29
X.	11	25	Total.	67	263

More evidence to show that the long-division form produces superior accuracy consists in the number of papers in each grade showing no errors. Table III shows the number of papers without errors on Forms A and B in each grade. There were almost four times as many papers without errors among the group which used the long-division form as among the group that used the short form. It is rather noteworthy that out of 220 papers in Grades V and VI only one paper without errors was submitted by the short-division group. It was in these two grades that the difference between the mean number of errors on the two forms was not significant.

[To be concluded]

THE NATURE AND DEVELOPMENT OF CONCEPTS OF TIME AMONG YOUNG CHILDREN

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Among the learnings which a child must master in his early years are the ability to understand time and the ability to use the vocabulary of time intelligently as it is used in the society into which he is born and to which he must adjust himself. During his early years the adult members of his family make most of the time adjustments for him, but through the routine of his day and the urgency of his bodily needs, he begins to recognize time as an important item of his experience. His ideas of punctuality, of measurement and passage of time are, of course, of the haziest and will remain so until he becomes responsible for his own adjustment as an individual to a time-regulated society.

The type of learning involved in the gaining of the idea of time is that of conceptual learning. A "concept" may be defined in varying terms by different psychologists, for example, a "symbol" standing for a large number of objects or relationships of objects, which may serve to elicit as its meaning the features possessed in common by the group of objects or the relationships;¹ a "'cue' to adjustment";² detached meanings which "give direction to conduct" and are "readily available for use in a variety of situations";³ "meaning sufficiently individualized to be directly grasped and readily used, and thus fixed by a word";⁴ or a "symbol reaction."⁵ For the purposes of this paper, the writer will define a "concept" simply as a meaning.

¹ Margaret Wooster Curti, *Child Psychology*, p. 244. New York: Longmans, Green & Co., 1930.

² William Chandler Bagley, *Educational Values*, p. 35. New York: Macmillan Co., 1911.

³ Boyd H. Bode, *Fundamentals of Education*, pp. 151-52. New York: Macmillan Co., 1926.

⁴ John Dewey, *How We Think*, p. 125. Boston: D. C. Heath & Co., 1910.

⁵ Floyd Henry Allport, *Social Psychology*, p. 416. Boston: Houghton Mifflin Co., 1924.

Concepts are developed through experience in connection with perceptive activities. By means of discriminative reactions, in proportion to the narrowness or the breadth of one's environment, one constantly builds up new concepts through the processes of abstraction and generalization. Concepts become more refined by means of continued processes of analysis and synthesis. The concepts of young children develop slowly because of their lack of extended experience whereby abstractions and generalizations may result. Young children tend to think in terms of particular events and experiences related to the growing concept. Time concepts are built up in just this manner but are particularly slow of development because they are extremely abstract.

The history of the telling of time as developed by man is a most interesting story. Primitive man was regulated merely by the occurrences of night, of day, and of the seasons and by the periodic demands of his own physical being, such as the need of food. Later, man recognized the divisions of day by the position of the sun in the sky and the regular occurrences in response to his personal needs and those of his social group. With the growth of co-operative living the idea of punctuality and its necessity to a well-regulated society came to be realized, and invention began to satisfy the felt need with the resulting long series of developments in the making of objective time regulators. Man brought in his contribution of hours, minutes, and seconds, whereas nature had given him only suns, moons, stars, and seasons as indicators of the passage of time. The development of precision through time-telling devices aided society to such an extent that we moderns look on the idea of punctuality as one of the vital institutions for regulating behavior in a co-operative society. Recognizing its value, we insist that children learn to tell time as early as possible in their social careers.

The first indications of a sense of time in young children, as recorded by Decroly and Degand,¹ have to do with simultaneities; that is, the sight of a person coming to the child at a certain time indicates to the child that a bath is to be given or, at another time, that the afternoon nap is to be taken. The immediate past is next

¹ Mary Sturt, *The Psychology of Time*, p. 44 New York: Harcourt, Brace & Co., Inc., 1925.

distinguished and understood vaguely according to the development of memory, this understanding being first shown as an "after-shine" in memory by such a word as "gone" when a meal has been finished or a person has left the room. With further development of memory the child increases his power to think and speak in terms of a few days or weeks past, but all these times are merely periods in a vague "yesterday," a term which is applied to all time in the past. Anticipation, or a beginning of an idea of time not yet come, is next shown by his realization that some event in the regular routine of his day is soon to be performed and in his patient acceptance of such terms as "by and by," "after while," "not yet," and "in a minute." These terms he uses but does not clearly understand.

As soon as a child begins to take an active interest in the routine of activities in his day, according to the schedule set for him, he begins to get an idea of measurement of time. This idea comes through a realization that a number of events may come into a period between two major events of the day, such as all the things he will do before another meal-time arrives. He may say, "I'll go out to play, and sleep, and play again, and then we'll have supper."

With the broadening of experience with adults as conversational partners, the child soon begins to add to his vocabulary the whole battery of expressions related to time which adults use, although his experiences will not at first be broad enough to allow for the abstractions and generalizations which are necessary for complete and correct concepts of the terms. That stage in development will come with added and varied experiences during the elementary-school years, bringing about increased power for discriminative reaction on his part.

When the child enters into the social group of the school, new pressure is applied by which his concepts of time are refined. First of all, he finds that there are two clearly defined portions of a school day and that they are called by different names, namely, "morning session" and "afternoon session." At each, he is expected to arrive "on time." He also learns that within each are smaller periods, the length of which are definitely and accurately controlled, and that, to be a member of the school group, he must conform to these regulated periods of activity. He soon learns to judge, in an indefinite

way, how long each of these periods is and how to judge when one period has been completed by the activities with which it is filled. If he is bored with happenings and activities drag, he finds that it seems a long time until the period is over. If he is having a very good time and activities are carried out in rapid succession, he finds that time goes quickly. Nevertheless, he learns to conform to time regulations in spite of his feelings, and thus the refinement of his concepts of time goes on within the new school environment.

In an investigation recently carried out the writer determined the nature and the development of concepts of time among young children, from the kindergarten through the third grade, using fifty commonly used terms selected from eight vocabulary studies. The responses to these terms, gained in individual interviews with 160 children of those grades, were recorded as showing (1) comprehension of general idea and specific facts (complete comprehension); (2) comprehension of general idea but knowledge of no specific facts (partial comprehension); (3) comprehension of general idea but incomplete knowledge of specific facts (partial comprehension); (4) comprehension of partial facts but no comprehension of general idea (partial comprehension); (5) confused comprehension, shown by the giving of both right and wrong answers; (6) complete misconception in general idea and specific facts; or (7) complete lack of comprehension, shown by no responses and "don't know" answers.

The percentages of the various types of responses for the fifty terms investigated are given in Table I. The data indicate a continuous and steady increase in growth, from grade to grade, of complete conception and a decrease of incomplete, confused, and wrong concepts, and of omissions. The data gathered in the investigation indicate that the development of concepts of time bears a fairly close relation to grade development, there being a correlation of $+.66 \pm .04$ between the two factors.

Growth in particular types of learning are closely related to a grasp of the concepts of time from grade to grade. As language is refined, its usage effects the development of the concepts, for example, "before" and "after" are terms which confuse the child's concepts of time if wrongly used. At first, the child is not sure exactly how these terms should be used in respect to time-telling. He has

already used "before" in an objective sense to express "in front of"; therefore, when he first uses the term in connection with time, he tends to use it to express future time instead of time in the past. This difficulty makes for confusion in his expression of future time. The same confusion is likely to occur in his use of the term "after" in time-telling. He tends to use it first in expressing past instead of

TABLE I
PERCENTAGE DISTRIBUTION OF RESPONSES OF 160 CHILDREN IN FOUR
GRADES ACCORDING TO THE PUPILS' COMPREHENSION
OF 50 TIME CONCEPTS

DEGREE OF COMPREHENSION	PERCENTAGE OF RESPONSES IN GRADE				
	Kin- dergar- ten	I	II	III	Aver- age
1. Complete comprehension in general idea and specific facts.	22	29	43	60	38
2. Partial comprehension, general idea, no specific facts.	8	8	4	2	6
3. Partial comprehension, general idea, incomplete facts.	12	15	16	14	14
4. Partial comprehension, partial facts, no general idea.	2	3	2	1	2
5. Confused comprehension shown by both right and wrong answers	23	20	22	17	20
6. Complete misconception in general idea and specific facts	13	11	5	2	8
7. No responses and "don't know" answers.	20	14	8	4	12
Total.	100	100	100	100	100

future time because the term as he has been accustomed to use it means "behind"; since past time is behind us, he tends to apply the word in the sense he knows. Other words often cause confusion until in the process of language development, the finer shades of meaning are attained and understood, and the child finds it easy to express himself with respect to time.

Some concepts of time are dependent on the growth of number meanings and relationships in the child's thinking. The child cannot possibly understand completely the meaning of "month" until he has the correct concept of thirty and thirty-one and their relation to

seven (the number of days in the week), which will enable him to understand that four weeks with two or three days remaining make the thirty- or thirty-one-day month. He will not comprehend the term "year" until the number twelve is fully understood as the number of months in the year, as well as the number 365 as the number of days. That is, the numerical relations of day, week, month, season, and year must be understood before the child can arrive at a complete concept of those terms as measurements of time. Increased language ability and an understanding of primary number meanings and relationships, which come to a fairly well-developed state at the

TABLE II
PERCENTAGES OF RESPONSES INDICATING COMPLETE COMPREHENSION OF FIFTY TIME CONCEPTS BY PUPILS AT THREE INTELLIGENCE LEVELS

GRADE	INTELLIGENCE LEVEL		
	High	Middle	Low
Kindergarten	30.2	24.0	10.8
I	49.6	24.9	14.8
II	54.8	45.5	26.2
III	70.4	62.3	43.2
Average	51.3	39.2	23.8

end of the primary grades, make it possible for children then to use expressions of time with meaning and to adapt the use of the calendar to their needs as an instrument of value in the reckoning of time and time relationships.

Other factors which are of importance are mental development and chronological age. The differences in the grasp of concepts of time by children of different levels of intelligence within grades was studied by dividing the children into high, middle, and low groups according to the intelligence quotient. The percentage of correct responses at each level is shown in Table II. It will be noted that there is a difference of only 13 between the percentage of complete responses made by pupils at the low level of intelligence in Grade III and the corresponding percentage at the high level in the kinder-

garten. The percentage of complete responses given by the low group in Grade III is only 6 less than the percentage of complete responses given by pupils at the high level in Grade I. The correlation between grasp of concepts of time and mental age was found to be $+.70 \pm .03$; between grasp of concepts of time and chronological age, $+.58 \pm .05$. These correlations indicate that concepts of time develop in closer agreement with inner maturation, as indicated by mental maturity, than with training and experience, as indicated by chronological age and grade placement.

Until the child has a grasp of the concepts of time, he cannot possibly develop a sense of historical sequence, upon which a study of history depends. He can make no clear-cut distinction between the time of remote happenings and the time of occurrences within the immediate past, nor can he comprehend the significance of a succession of periods in history until an understanding of time is attained. Even then, the larger measures of time cannot be entirely meaningful to him unless they are filled with events which the child comprehends as being carried out in a number of periods of time, such as are equal to those within his experience. The two laws which govern his feelings for historical sequence in the attitude of retrospect are exactly the reverse of those which govern his attitude toward immediately experienced time. In retrospect, or historical imagination, unfilled time seems short and filled time seems long because in retrospect we realize the length of time only through our memory of events filling that time. Few events in the memory-train leave time unfilled and make it seem short, while many events in the memory-train fill time and make it seem long.

Oakden and Sturt¹ have concluded that concepts of time are mature at the age of thirteen or fourteen and that from then on individuals should find no difficulty in adjusting themselves to a time-regulated society or in achieving correct historical imagination. It is the opinion of the writer, however, that further study of history should continue to refine those concepts by filling remembered periods with interesting historical events. This opinion is gained from observation of students of history and through in-

¹ E. C. Oakden and Mary Sturt, "The Development of the Knowledge of Time in Children," *British Journal of Psychology*, XII (April, 1922), 334

tropection concerning changes in the writer's own historical imagination.

As teachers, we must help children to feel the importance of time-telling as a valuable asset in modern social life, and we must also carefully take into account how we may help them to achieve matured concepts of time through language development and the development of number concept. In our use of the terms relating to time we must ourselves be accurate and precise in order that confusion will not result in children's minds. The term "minute," for example, might be more clearly understood by the small child if we did not often say, "Wait a minute," and then require him to wait a half-hour. We shall also need to help the child to use accurately nature's simpler means of time-reckoning before we expect him to struggle with artificial minutes, hours, and seconds as they are arranged on the face of the clock (where the numeral I may mean one o'clock or five minutes past the hour, according to the hand which points to it). We must remember that the bright child will make the required abstractions and generalizations much earlier in his development than the mediocre or the dull child and that, with children of the latter two types, we shall have need of great patience and care lest we confuse them in their effort to master this abstract phase of their learning.

THE LEARNING OF FUNDAMENTALS IN AN ARITHMETIC ACTIVITY PROGRAM

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THE PROBLEM

The writers set out to discover the extent to which the fundamentals are learned in an arithmetic activity program. In this particular study we were not experimenting with an integrated activity program. Such a procedure is more complex, involves more variables, and should logically come after some experience with a program of activities limited to one subject. In fact, the experiment reported in this article made several concessions to the conventional content and order of learning arithmetic.

The study was limited to the multiplication and the division of fractions and to denominate numbers which are commonly learned in the second term of Grade V. The activities were selected deliberately because they were rich in the applications of the fundamental processes in the multiplication and division of fractions and in denominate numbers. Nevertheless, the activities were genuinely real on the child's level of maturity. They were based on meaningful situations in the child's experience in school and out of school. The children participated in selecting and planning the units of work. The actual life-situations were, as far as possible, reproduced in the classroom. The materials utilized were those which occur in life. The activities included weighing and measuring materials, cooking meals, sewing garments, serving meals, purchasing goods, eating meals, reading recipes, entertaining children and adults, decorating classrooms, making baskets, assembling and arranging furniture and other equipment, cutting paper, consulting parents, obtaining estimates, comparing prices, organizing into committees, calculating costs, calculating quantities of materials, preparing food baskets,

estimating the needs of families, handling foods, and so on. There was maximum participation on the part of the pupils. The pupils communicated and associated freely as the need arose. They had abundant opportunity to choose, to judge, and to evaluate. Every unit came to a logical and natural close.

The time devoted to arithmetic was the usual daily period lasting between fifty and sixty minutes. Much of the time ordinarily devoted to drill and problem-solving was devoted to construction, manipulation, and other activities. Actually, therefore, much less than the customary allotment of time was used in computations.

THE CLASS AND ITS RESOURCES

The experimental class was an ordinary class in a typical metropolitan school in Cleveland. It should, however, be pointed out that the school is designated as the arithmetic curriculum center, in which new units of work are developed for eventual distribution throughout the city or for inclusion in the next city-wide course of study. The teachers in the school are selected because of their special ability in teaching arithmetic. According to records of the general ability of the pupils based on the National Intelligence Tests, Scale A, Form 1, the intelligence quotient of the pupils ranged from 92 to 135, the average being 113. Unlike other experimental, laboratory, or private schools, the class was a typical crowded group of thirty-seven pupils. The classroom had practically no permanent learning equipment or supplies other than movable desks. The materials and equipment used in the several units were improvised and assembled when they became necessary, the resources of the school and the homes of the children and the neighborhood stores being drawn on.

THE FUNCTIONAL ARITHMETIC COURSE

The units which comprised the course included the following: (1) a candy sale, (2) understanding the advantage of an inclined plane (clarifying the science of the grade), (3) a mothers' party, (4) baskets for two needy families, (5) preparing a luncheon for Grade I, (6) making a quilt for a children's hospital, and (7) serving a teachers' luncheon. Each of these units lasted from eight to twelve

periods. With the exception of one, all the units involved some purchasing transactions by the pupils. All except two of the units involved the selection and the preparation of food. The quilt-making unit involved some designing and sewing. Four of the units involved selling transactions.

To illustrate, we give here a brief outline of the first unit, the candy sale. To raise funds for a mothers' party, the class decided to make and sell candy. The children estimated that they would need to earn five dollars. On the basis of a fifteen-cent profit on the pound, it would be necessary to make $33\frac{1}{3}$ pounds of candy. From a study of recipes five kinds of candies were selected. After testing the recipes to find out how much candy each would produce, the pupils determined how many times each recipe would have to be increased to yield $6\frac{1}{2}$ pounds of candy. Before the materials could be purchased, the ingredients, which were given in cupfuls, teaspoonfuls, and tablespoonfuls, had to be converted into pounds and ounces. Prices were obtained from two stores, and the cost of materials was calculated. The actual making of the candy required several days. The cost a pound was determined and then the selling price. Most of the candy was sold by the half-pound. The estimated cost of materials was \$4.43; the actual cost was \$3.82 because of a decline in prices. The cost of a pound of candy was 12 cents; the selling price was 27 cents. The gross receipts amounted to \$9.87. The profits from the sale amounted to \$6.05.

New arithmetical steps did not occur in the order of progressive difficulty. In fact, the most difficult step in the multiplication of fractions came first, namely, the multiplication of a mixed number by a mixed number. The simplest step ($\frac{1}{2}$ of 4) was the twelfth in the actual order of occurrence. In five of the units the more difficult steps occurred before the simpler steps.

The pupils sensed a new step at once. Very often they were asked to suggest how to perform a new process. The pupils were never allowed to attack a new process incorrectly. Each new difficulty was taken up and explained in a few minutes. For example, in the luncheon unit in Grade I, when the children were deciding which would be the most economical loaf of bread to buy, a new step was

met for the first time: dividing a number by a larger number. The five-cent loaf yielded 16 slices; the ten-cent loaf yielded 40 slices.

$5 \div 16 = 5 \times \frac{1}{16} = \frac{5}{16}$ ¢ The pupils' attention was drawn to the size of the divisor. It was shown that 5
 $10 \div 40 = 10 \times \frac{1}{40} = 1 \times \frac{1}{4} = \frac{1}{4}$ ¢ could be divided by 16 but that the an-

swer would be a fraction. In the same unit cookies were made. The recipe called for $2\frac{1}{2}$ dozen, but the class wanted to make 7 dozen. To determine how many times to increase the recipe, the pupils found it necessary to divide 7 by $2\frac{1}{2}$. This process was a new step: dividing an integer by a mixed number: $7 \div 2\frac{1}{2} = 7 \div \frac{5}{2} = 7 \times \frac{2}{5} = \frac{14}{5} = 2\frac{4}{5}$ times. The teacher called attention to the divisor and asked what must be done with such numbers before dividing. The mixed number was changed into an improper fraction, and the usual procedure in division of fractions was then applied.

Some new steps developed so naturally and imperceptibly that the pupils were barely aware of the newness or the difficulty of the process. Frequently a step belonging to an advanced grade was met. The step was explained briefly, and the pupils were told that they would meet it again later.

In this experiment we decided to dispense completely with any form of practice or drill sheets or any other supplementary exercises. We gave no diagnostic tests nor any other tests in order that the repetition of the processes might be limited exclusively to their natural occurrence in the units of work. There were, of course, many repetitions, but none of them was deliberate or extraneous. For example, when the party for mothers was being planned, it was necessary to increase the recipes of three kinds of cookies. Since each recipe required eight ingredients, there resulted twenty-four repetitions of the multiplication of fractions.

All the work of the pupil was kept in a notebook, which was frequently checked by the teacher. No child was permitted to leave an error uncorrected. The notebooks proved to be a valuable source of information, the pupils referring to their records frequently. No textbook nor any other printed material was used in this experimental course.

The conditions under which the experimental course was conducted may be summarized as follows: (1) The units were based on

socially real situations or activities. (2) The situations were selected because they were rich in the use of fractions. (3) No attention was given to the order of the occurrence of the steps in fractions. (4) No external practice or drill was introduced. (5) No more than the usual time allotted to arithmetic was devoted to computation. (6) The experimental class was an ordinary group of 37 children having an average intelligence quotient of 113 on the National Intelligence Tests, Scale A, Form 1. (7) The teacher was one of a group especially selected for this school because she excelled in the teaching of arithmetic.

RECORDING THE DATA

The fundamental steps.—It will be recalled that the purpose of this experiment was to determine whether the arithmetical processes were learned. The fundamental arithmetical steps or processes have been isolated repeatedly. For our purpose we used the analysis made by the staff of our local curriculum center for arithmetic. The list of basic steps included eight steps in multiplication of fractions, six steps in the division of fractions, and twelve steps in denominate numbers.

The preliminary and the final tests.—This list of fundamental steps formed the basis of the preliminary and the final tests containing seventeen items of three exercises each. The two forms actually used were those designed by the Milford School, the experimental center, to test the mastery of the processes for the grade. A step was considered mastered when the pupil worked correctly two of the three exercises involving that step. The results of these tests furnished our main conclusions. In addition to this test of mastery, the pupils were given a preliminary and a final test in practical problems involving the basic steps, as a further check on our experiment.

Sequence of steps and number of repetitions of steps.—With the aid of a chart we kept a daily record of the order in which each step occurred. Thus, we knew the exact sequence in which the arithmetical steps occurred in each unit. We were interested to know whether the random sequence of steps had any effect on the children's mastery of the steps. Again, using a chart, we kept a daily record of the number of times each step was repeated. We therefore had an exact record of the amount of practice on each step as it was provided by

our selected functional units of arithmetic. These data enabled us to determine whether there was any relation between the amount of practice and mastery.

The units themselves were recorded in detail, the actual development of the learning experiences and the arithmetical computations as they arose being shown. These records served not only as complete records of the experiment for us but also as records of learning experiences which other teachers may wish to try. The units,¹ the tests, and our detailed records are available to anyone at the cost of copying.

In summary, the following data were recorded: (1) the fundamental arithmetical steps, (2) a detailed account of the development of each unit, (3) the score of each pupil on the preliminary test of processes, (4) the score of each pupil on the final test, (5) the sequence of the processes in each unit of work, and (6) the number of times each process was repeated in each unit and in the whole term.

THE DATA

Were the fundamentals learned?—It will be recalled that the primary purpose of the experiment was to discover whether denominate numbers and the fundamental processes in the multiplication and the division of fractions could be mastered in an arithmetic activity program based on situations in school and social life. With the exception of eleven pupils who had had some work in the multiplication of fractions, the preliminary test showed that the pupils possessed little ability to use the basic processes correctly. Table I gives data on the number of steps mastered, as measured by the final test. The final test showed that the average number of steps learned by the class was 14.2 out of the 17 processes included in the tests. This showing is equivalent to a mastery of 84 per cent of the processes. Seven pupils mastered all the steps; eight pupils mastered sixteen steps; five pupils mastered fifteen steps. Seventy-three per cent of the pupils mastered at least 75 per cent of the steps included in the half-grade. Only one pupil mastered less than 50 per cent of all the steps. The group did especially well in denominate numbers, only one pupil failing to make a perfect score on this part of the test.

¹ The units have recently been made available in mimeographed form and may be secured from the senior author for fifteen cents a copy.

This showing represents a mastery of 98 per cent for the whole class. The degree of the pupils' mastery of the processes in the division of fractions was greater than the degree of their mastery of the processes in the multiplication of fractions. In division of fractions they mastered 83 per cent of the processes, and in multiplication of fractions they mastered 79 per cent of the processes. The supplementary test of problems applying the processes confirmed the results of the basic test, the pupils making a composite score of 86 per cent of correct answers.

TABLE I
DISTRIBUTION OF PUPILS ACCORDING TO NUMBER OF ARITHMETICAL STEPS MASTERED IN ARITHMETIC ACTIVITY
CLASS IN GRADE V A

NUMBER OF STEPS MASTERED	PERCENTAGE OF STEPS MASTERED	PUPILS MASTERING STEPS	
		Number	Per Cent
17 (all)	100	7	18.9
16	94	8	21.7
15	88	5	13.5
14	82	4	10.8
13	76	3	8.1
12	71	5	13.5
11	65	3	8.1
9	53	1	2.7
6	35	1	2.7
Total	84	37	100.0

Did the average intelligence of the group affect the results?—It may be charged that the good showing of the experimental class resulted from the superiority of the group, the average intelligence quotient on the National Intelligence Tests being 113. To determine the accuracy of this charge, we divided the class into two halves. On the National Intelligence Tests the upper half had an average intelligence quotient of 121.4, and the lower half had an average intelligence quotient of 104.4. Table II shows that the upper half of the class mastered an average of 14.9 processes, or 87.6 per cent of the total. The lower half of the class mastered an average of 13.5 processes, or 79.4 per cent of the total. It is clear, therefore, that the average intelligence of the group was only a minor factor in accounting for the outcome of the experiment.

How much did the pupils add to their initial mastery?—The conclusions thus far have been based entirely on the result of the final test because we were primarily interested in answering the question: Are the so-called “fundamentals” learned? This procedure is precisely the same as the procedure one would follow to determine the mastery of the basic arithmetic steps in the conventional class. However, we went one step farther in our inquiry and found the percentage of mastery of the steps which the class did not know at

TABLE II
DISTRIBUTION OF PUPILS IN UPPER HALF AND LOWER
HALF OF ARITHMETIC ACTIVITY CLASS ACCORDING TO
NUMBER OF ARITHMETICAL STEPS MASTERED*

NUMBER OF STEPS MASTERED	NUMBER OF PUPILS MASTERING STEPS	
	Upper Half	Lower Half
17 (all)	4	3
16	6	2
15	2	3
14	1	3
13	2	1
12	2	3
11	1	2
9	0	1
6	0	1
Average number of steps mastered	14 9	13 5

* On the National Intelligence Tests the average intelligence quotient of the upper half of the class was 121.4, that of the lower half, 104.4

the beginning of the half-grade, as revealed by the preliminary test. In other words, we wished here to eliminate all steps which according to the preliminary test the pupils already knew. After the steps which the pupils already knew had been eliminated, the data showed that the experimental class learned 79.5 per cent of the basic steps in the half-grade.

Were the steps learned in sequence?—It is obvious to anyone who has read thus far that the arithmetical steps were not learned in the order of progressive difficulty, as they are learned in the conventional arithmetic course. For years it has been taken for granted that most economical learning occurs when a system of habits is built up in

TABLE III

ORDER IN WHICH STEPS OCCURRED IN SEVEN ARITHMETIC ACTIVITY
UNITS IN A FIFTH-GRADE CLASS

STEPS INCLUDED	ORDER OF OCCURRENCE OF STEPS						
	Unit I	Unit II	Unit III	Unit IV	Unit V	Unit VI	Unit VII
1. Finding fractional part of an integer using unit fractions only; product an integer.	12	...	13	....	3	...	4
2. Multiplying integer by a common fraction and vice versa. If cancellation possible, one term is common factor.	5	2	9	1	1	3	5
3. Multiplying fraction by fraction. If cancellation possible, neither term is common factor.	6	4	.	.	.	.	...
4. Multiplying mixed number by integer or common fraction.	2	1	1	9	6	2	3
5. Multiplying mixed number by mixed number.	1	3	4	8	.	7	7
6. Multiplying integer by mixed number using vertical form.	10	..	6	.	.	.	6
7. Multiplying mixed number by integer using vertical form.	9	...	8	.	.	.	.
8. Multiplying three common fractions or mixed numbers. . . . .	.	.	.	.	.	.	.
9. Dividing an integer by a common fraction. . . . .	.	.	.	.	.	.	.
10. Dividing a common fraction by a common fraction. . . . .	.	.	.	.	.	.	.
11. Dividing a common fraction by an integer. . . . .	...	.	.	.	.	.	.
12. Dividing a mixed number by an integer or a common fraction.	8	.	3	2	.	4	.
13. Dividing an integer or a common fraction by mixed number.	7	.	5	10	.	6	.
14. Dividing mixed number by mixed number.	4	...	2	.	.	5	.
15. Changing ounces to pounds.	3	.	11	.	.	.	.
16. Changing pounds to ounces. . . . .	.	.	.	.	.	.	.
17. Adding ounces and pounds. . . . .	.	.	.	.	.	.	.
18. Subtracting ounces and pounds. . . . .	.	.	.	*	.	.	.
19. Changing inches to feet. . . . .	.	.	12	.	.	1	.
20. Changing feet to inches. . . . .	.	.	.	.	.	.	.
21. Changing yards to feet. . . . .	.	.	.	.	.	.	.
22. Multiplying United States money.	11	.	.	4	5	9	1
23. Adding United States money. . . . .	...	...	7	7	4	10	2
24. Subtracting United States money. . . . .	..	.	10	.	2	.	8
25. Dividing integer by larger integer. . . . .	.	.	.	3	.	8	.
26. Changing pints to quarts. . . . .	..	.	.	6	.	.	.

* In Unit IV Step 18 might have occurred nine times, but pupils preferred to change the ounces to a fractional part of a pound. Both methods were explained to the pupils.

carefully determined sequence from the simple to the complex. Table III shows that in none of our units was there the slightest approximation to an orderly arrangement of arithmetical steps. For example, in the first unit, the candy sale, the order of appearance of the processes was 5, 4, 15, 14, 2, 3, 13, 12, 7, 6, 22, and 1.

Was there any relation between the repetition of a step and the degree of mastery of the step?—We were interested to find out whether the

TABLE IV
RELATION BETWEEN NUMBER OF REPETITIONS AND MASTERY OF STEPS

STEP NUMBER	REPETITIONS		MASTERY		DIFFERENCE IN RANK*
	Number of Repetitions	Rank of Step	Percentage of Mastery	Rank of Step	
4	112	1	87	8	7 0
2	50	2	94	5	3.0
5	31	3	71	13	10.0
12	24	4	84	9	5.0
13	14	5.5	76	10	4.5
15	14	5.5	60	15	9.5
25	11	7.5	94	5	2 5
1	11	7 5	97	1.5	6 0
14	10	9	73	11.5	2 5
6	9	11	55	16	5.0
7	9	11	68	14	3 0
18	9	11	94	5	6 0
3	8	13	94	5	8.0
8	0	15 5	42	17	1.5
9	0	15 5	97	1.5	14.0
10	0	15 5	94	5	10 5
11	0	15 5	73	11 5	4.0

* The average difference in rank is 6.0

number of incidental repetitions of a process resulted in any learning advantage. We found that there was absolutely no relation between the number of repetitions of a step and the degree of mastery of the step. We arranged the steps (1) in the order of the number of repetitions and (2) in the order of degree of mastery, as is shown in Table IV. We found that there was an average difference of six places between the order on the basis of repetition of steps and the order on the basis of degree of mastery of steps. This difference does not, however, show the complete absence of connection between the two. To take a specific instance, Step 4, the multiplication of a mixed number by an integer or a common fraction, occurred 112 times in

the course of the seven units and resulted in a degree of mastery of 87 per cent. On the other hand, Step 9, dividing an integer by a common fraction, did not occur at all, and yet it resulted in a degree of mastery of 97 per cent. It is most interesting to observe that the first three of the six steps in the division of fractions (Steps 9, 10, and 11) did not occur at all in the seven functional arithmetic units of work, yet the percentages of mastery of these three steps were 97, 94, and 73, respectively. This finding in itself is worth further study because it suggests, what others have pointed out, that learning depends on factors other than mere repetition. Furthermore, it throws doubt on the value of the meticulous attention given to the amount and the distribution of practice by many authors of textbooks in arithmetic.

SUMMARY

1. In an arithmetic activity program based on real situations in school and social life, the pupils mastered 14.2 of the 17 fundamental processes included in the test on denominate numbers and on the multiplication and the division of fractions. This average is equivalent to a mastery of 84 per cent of the processes. If it is desired, the degree of mastery might be increased by the administration of two diagnostic tests at the middle and the end of the term followed by individual practice exercises.

2. The average intelligence quotient (113 on the National Intelligence Tests) for the experimental group was a very minor factor in accounting for the outcome of the experiment.

3. If what the pupils already knew at the beginning is eliminated, it is found that the pupils learned 79.5 per cent of the basic steps in the half-grade.

4. The fact that the arithmetical steps appeared in random order did not hinder the learning process.

5. The number of times which a step was repeated had nothing to do with the degree to which it was mastered.

6. Finally, at least under the condition of good teaching, an arithmetic activity program based on real situations in school and social life incorporating the basic arithmetical steps of a grade may be undertaken with considerable assurance that these steps will be mastered.

SUBJECT COMBINATIONS IN DEPARTMENTALIZED ELEMENTARY SCHOOLS

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STATEMENT OF PROBLEM AND METHOD OF PROCEDURE

The purposes of this study were (1) to determine, on the basis of practice and the judgments of experts, the most desirable subject combinations for teachers giving instruction in more than one subject in departmentalized intermediate grades in cities with populations of not more than 10,000 and (2) to determine, on the same basis, the correct order of the subjects in the daily program. More than 100 schedules, containing the daily programs of 566 teachers in 93 departmentalized elementary schools in 32 states, were studied. The elementary schools studied were either six-year or eight-year schools. The opinions of 68 experts in elementary education were used. The personnel of the body of experts included authors of textbooks on elementary education, outstanding teachers of elementary education in colleges and universities, directors and supervisors of elementary education, specialists in elementary education, elementary-school principals, high-school principals, superintendents, state and county officials, and psychologists. These experts indicated what they considered the most desirable combinations of school subjects in departmentalized intermediate grades. They also gave, in terms of class periods, the order in which the school subjects should be taught during the school day.

DESIRABLE SUBJECT COMBINATIONS

Of the 566 teachers studied, 112 were teaching only one subject, 221, two subjects; 201, three subjects; and 32, four subjects. Thus, a total of 454 teachers were giving instruction in more than one subject. The experts recommended fifteen different two-subject com-

binations that were found in actual practice. Other combinations were recommended that did not occur in actual practice, and vice versa.

TABLE I
MOST DESIRABLE TWO-SUBJECT AND THREE-SUBJECT COMBINATIONS RANKED
ACCORDING TO SIXTY-EIGHT EXPERTS' OPINIONS OF THEIR DESIRABILITY
AND ACCORDING TO OCCURRENCE IN ACTUAL PRACTICE

COMBINATION	RANK IN EXPERTS' OPINIONS	RANK IN ACTUAL PRACTICE	AVERAGE OF RANKS	RANK OF AVERAGE RANK	DIFFER- ENCE IN RANKS
Two-Subject Combinations					
1. History and geography.	1	7.5	4.25	4	6.5
2. Language and spelling.	2	4	3.00	2	2
3. Arithmetic and science.	3.5	4	3.75	3	0.5
4. Reading and language.	3.5	1	2.25	1	2.5
5. History and language.	5	12.5	8.75	5	7.5
6. Spelling and arithmetic.	8	21	14.50	11	13
7. Geography and science.	8	12.5	10.25	7	4.5
8. Reading and spelling.	11	7.5	9.25	6	3.5
9. Geography and reading.	11	12.5	11.75	9	1.5
10. Science and health.	11	18.5	14.75	12	7.5
11. Arithmetic and health.	13	10	11.50	8	3
12. History and special subjects.	18	24.5	21.25	14.5	6.5
13. History and reading.	18	9	13.50	10	9
14. Reading and penmanship.	18	24.5	21.25	14.5	6.5
15. Arithmetic and reading.	21.5	15.5	18.50	13	6
Three-Subject Combinations					
1. Language, spelling, and reading.	1	2	1.5	1	1
2. Spelling, language, and penmanship.	3	4	3.5	3	1
3. Reading, history, and geography.	4.5	9	6.75	5	4.5
4. Geography, arithmetic, and history.	4.5	1	2.75	2	3.5
5. Arithmetic, science, and geography.	6.5	3	4.75	4	3.5
6. Arithmetic, spelling, and language.	13.5	8	10.75	6	5.5
7. Language, reading, and health.	15.5	21	18.25	7	5.5

In Table I these fifteen two-subject and seven three-subject combinations are ranked in the order of frequency of mention by the experts and in the order of frequency of occurrence in actual practice. For example, the combination of history and geography ranks first in frequency of mention by the experts and 7.5 in frequency of occur-

rence in actual practice. On the basis of frequency of occurrence in actual practice and frequency of mention by experts, all the two-subject combinations given in Table I are permissible, but some are more desirable than others. When equal weights are assigned to frequency of occurrence in actual practice and to frequency of mention by experts, it will be observed from the rank of the average rank that the two-subject combinations are desirable in the following order, the first named receiving the most support.

Reading and language	Geography and reading
Language and spelling	History and reading
Arithmetic and science	Spelling and arithmetic
History and geography	Science and health
History and language	Arithmetic and reading
Reading and spelling	Tie { History and special subjects Reading and penmanship
Geography and science	
Arithmetic and health	

The differences in the ranks given in the last column of Table I indicate that the combinations found in actual practice differed but little from the combinations recommended by experts with the possible exceptions of history and language, spelling and arithmetic, science and health, and history and reading. The most desirable subject to combine with history seems to be much in doubt.

It appears that all the three-subject combinations in Table I are permissible and fairly desirable. These combinations are preferred in the following order, the first named receiving the most support.

Language, spelling, and reading	Reading, history, and geography
Geography, arithmetic, and history	Arithmetic, spelling, and language
Spelling, language, and penmanship	Language, reading, and health
Arithmetic, science, and geography	

The differences in ranks for the three-subject combinations show a marked extent of agreement between the ranks in actual practice and the ranks in the opinions of the experts. This statement must be considered in view of the fact that the ranks according to the experts' opinions and the ranks according to occurrence in actual practice were selected from a ranking of twenty-one different three-subject combinations given by experts and twenty-one combinations occurring in actual practice. In a total of twenty-one ranks a position deviation of 5.5 (the largest) is relatively small.

The four-subject combinations were conspicuous for their lack of agreement between the combinations found in actual practice and those recommended by the experts. Only two different combinations which occurred in actual practice were mentioned by the experts. One was a combination of arithmetic, spelling, reading, and language, which ranked seventh in the opinions of experts and second in actual practice. The other was a combination of language, reading, penmanship, and spelling, which ranked 9.5 in the opinions of the experts and fourth in actual practice. Neither history nor geography seemed to be combined consistently with any other fixed combination of three subjects.

As a concluding statement for this section, it will suffice to say that the experts' recommendations of various subject combinations were more uniform than were the combinations found in actual practice. Probably this result was to be expected since the experts set up what appeared to them to be a group of ideal combinations, barring all possible expediency measures, while the combinations found in actual practice were often the result of exigencies of the daily schedule. In many cases the existing combinations were not the combinations which the superintendents, the principals, and the teachers would have preferred, but, as is the case in many practical situations, propriety had been sacrificed for expediency.

PLACEMENT OF SUBJECTS IN THE DAILY PROGRAM

Whether there is a best time of day to teach a given subject is still a question worthy of serious study. To date the general tone of research findings on this problem seems to favor the conclusion that there is no best time of day for any of the elementary-school subjects. Sixty experts in elementary education and eight outstanding psychologists, the total of sixty-eight experts previously referred to, gave their opinions concerning the order in which the subjects should be taught. Their preferences are summarized in Table II. The rather marked agreement between the experts and the psychologists should be noted in the case of reading, arithmetic, spelling, geography, and history. The psychologists made no place for civics in their proposed daily program.

The order in which the subjects were taught, as given in the daily

programs of 566 teachers, is indicated in Table III. It should be noted that the totals for the various subjects are not the same for the

TABLE II
ELEMENTARY-SCHOOL SUBJECTS LISTED ACCORDING TO OPINIONS OF SIXTY EXPERTS IN EDUCATION AND EIGHT PSYCHOLOGISTS CONCERNING ORDER IN WHICH SUBJECTS SHOULD BE TAUGHT

School Period	Experts in Education	Psychologists
First.	Reading	Reading
Second.	Arithmetic	Arithmetic
Third.	Language	Special subjects
Fourth.	Spelling	Science
Fifth.	Geography	Spelling
Sixth.	Health	Geography
Seventh.	History	Language
Eighth.	Civics	History
Ninth.	Science	Health
Tenth.	Special subjects	. . . . .

TABLE III
FREQUENCY WITH WHICH SCHOOL SUBJECTS ARE PLACED AT GIVEN PERIODS OF SCHOOL DAY IN DAILY PROGRAMS OF 566 TEACHERS

Subject	FREQUENCY WITH WHICH SUBJECT IS TAUGHT IN SCHOOL PERIOD										Total
	1	2	3	4	5	6	7	8	9	10	
Reading	47	37	32	22	28	24	23	20	18	5	256
Arithmetic	95	49	40	33	50	30	23	14	1	0	335
Language	50	46	31	58	39	37	36	18	8	2	325
Spelling.	30	25	22	23	28	27	16	16	1	0	188
Penmanship.	25	20	17	20	28	20	13	12	4	4	163
Geography.	25	27	20	17	25	23	33	18	5	3	196
Health.	16	16	9	13	16	16	13	17	6	5	127
History.	23	29	23	28	26	28	16	14	2	1	190
Science	18	17	16	16	29	19	15	16	4	2	152
Special subjects.	31	35	25	25	25	25	21	26	20	10	243

reason that the teachers did not have the same subjects in their schedules. The frequencies for the various subjects, therefore, are not comparable with one another, but the frequencies for each sub-

ject are comparable and indicate tendencies for certain subjects to be taught at given periods.

At first sight, Tables II and III appear markedly inconsistent. Table III shows that many of the subjects were distributed over the entire school day. Nevertheless, there was some consistency between opinion and practice. Table III shows that arithmetic and reading were taught most frequently during the first and the second periods, while Table II indicates that the experts considered these periods the most desirable for the two subjects. The experts favored the third period for language, but in actual practice the fourth period was given the highest frequency for this subject. While the experts favored the fourth period for spelling, in actual practice this subject was distributed fairly well throughout the entire day. The most favored time for geography was near midday in both tables. The experts placed health near midday, while teachers in practice were teaching this subject at all times during the day. History was placed in the second and the last quarters of the day by experts, while it was taught at all hours during the day by teachers. Science was preferred in the latter part of the day by the experts, while it was taught most frequently near midday. The special subjects are distributed throughout the entire day in both tables.

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CONSISTENCY OF PUPIL RESPONSE ON TESTS OF READING COMPREHENSION

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As a part of a larger investigation carried on by the writer at the University of Iowa in 1931, an attempt was made to determine whether pupils are consistent in their responses to test items designed to determine their understanding of ideas found in the reading context. The point at issue is: If a test includes only one question regarding an idea found in the reading context, does the response to that one question represent a true picture of the pupil's understanding of the idea expressed in words in the reading context? Is it possible that a pupil will respond in one way to a particular question about an item in the reading context and, when confronted with another question regarding the same item, answer in a different way?

Two reading selections were used in this study. Both were taken from American-history textbooks in current use in the public schools. Selection A gave a description of Colonial lighting and contained 202 words. Selection C contained 265 words and consisted in a discussion of the Dred Scott decision. After a careful study of the reading selections, pencil-and-paper tests were devised by the writer in an effort to test exhaustively the pupils' understanding of the selections used. Tests of the following types were used: (1) a true-false test, (2) a multiple-choice test, (3) a free-expression inference test, (4) a true-false inference test, (5) a map test, and (6) a picture test. Every idea expressed in each of the reading selections was carefully tested in several different ways in the various types of tests used. During the administration of the tests the pupils were allowed to read the selections as many times as they wished. For this reason, the tests did not operate as recall tests. These tests were given to approximately fifty-five children of the eighth grade in a small town (2,500 population) in the Middle West.

The responses to all items testing similar ideas were grouped together, and the percentages of consistency were calculated. A pupil's responses were counted as consistent if all questions regarding a specific idea found in the context were answered consistently; that is, a pupil might be consistently right, consistently wrong, or inconsistent in his responses regarding any idea found in the context. One credit for consistency was recorded for each child when he responded consistently right or consistently wrong on all the questions regarding any idea found in the reading context. In some cases as many as five different questions were asked regarding the same idea found in

TABLE I
MEAN PERCENTAGES OF CONSISTENCY OF RESPONSES TO TEST ITEMS ON
TWO READING SELECTIONS MADE BY GROUPS OF PUPILS DIVIDED
ACCORDING TO INTELLIGENCE QUOTIENTS

INTELLIGENCE QUOTIENT	NUMBER OF PUPILS		PERCENTAGE OF CONSISTENT RESPONSES	
	Selection A	Selection C	Selection A	Selection C
80-89	10	10	53.04	48.82
90-99	19	17	38.74	48.10
100-109	17	18	50.64	47.05
110-119	5	5	57.39	55.28
120-129	5	5	66.09	62.36

the context. No partial credits were allowed for varying numbers of consistent responses regarding specific ideas found in the selections because no workable method could be devised for so doing and because it was believed that, if a pupil had a clear picture in his mind regarding any idea symbolized in words in the selections, he would answer all questions consistently. Answering any questions inconsistently would show some confusion on his part.

The percentages of consistency of response for each child were computed by dividing the total number of his consistencies by the total possible number. The mean percentages of consistency of groups divided according to intelligence were then computed. Table I shows the results of this computation for the two selections. It will be noted that on Selection A the more intelligent children were

more consistent than the duller pupils. However, the best group was consistent in the responses only two-thirds of the time. The most inconsistent group was consistent little more than one-third of the time. If bright pupils can be depended on only two-thirds of the time and the duller pupils only one-third of the time, is one justified in putting much faith in investigations that make use of only single questions about any particular idea found in the reading context? Certainly one must be cautious in interpreting test results when only a small number of questions are used for a large amount of reading material.

The results on Selection C are in agreement with those on Selection A. The brightest group was consistent less than two-thirds of the time, while the most inconsistent group was consistent less than one-half of the time.

This study is subject to several limitations. It may be that some of the test questions were ambiguous or that certain test questions designed to test understanding of the same idea in the context were not exactly the same; that is, they did not test exactly the same idea. However, weeks of study were put on the reading selections, and the tests were revised again and again by the writer and two assistants in order to make the items as reliable and as valid as possible. It seems difficult to believe that the low percentage of consistency in the responses results from errors in the tests.

Since this study included only a small number of cases and since proper geographical distribution of the cases was not secured, no claim is made that the results secured for these children would hold for all children. However, it is probable that the results secured in this investigation would be found in similar studies of other children in various parts of the country, although probably in greater or less degree. Since standardized tests in reading are used in all parts of the country, test-makers need to take these results into account in constructing tests.

An inspection of individual pupil responses brought out the fact that the responses of some children on true-false-test items were inconsistent with their responses on multiple-choice-test items pertaining to the same idea. Their responses on map tests and on verbal tests were inconsistent. In fact, for some children inconsistencies

were found between any two of the various types of tests used. Certain children were able to respond to a map test correctly, but, when asked to answer on a verbal test a question about the same idea, they became confused and gave an answer exactly opposite to that which they had given on the map test.

These data seem to indicate clearly that one would not be justified in assuming that a correct picture of the reading comprehension of these children had been secured by the use of any one test item regarding any specific idea in the context in any type of test used here. This finding points strongly to the possibility that any one type of test or any one test item is not a sure guide to an understanding of pupils' reading comprehension.

It seems to the writer that these data strongly suggest the need for the use of greater caution in the preparation, the evaluation, and the interpretation of tests of reading comprehension than has been used in the past. The data also indicate need for the use of other techniques than those so far employed by students of education in investigations of reading comprehension. As a result of his study of the problems of reading comprehension by means of written tests (verbal, map, and picture), the writer is very much of the opinion that absolute reliance cannot at present be placed on the results of any of these methods of testing reading comprehension. Reading comprehension is, apparently, much too complicated a process to be thoroughly probed by the techniques used by investigators up to the present time.

In the testing of reading comprehension verbalism is one of the most difficult of problems. No techniques yet devised make sure that the pupils' answers in words carry for each child responding the same meaning as the answers carry for the test-makers and the investigators. Various techniques have been used in attempts to avoid the influence of verbalism, such as diagram tests, map tests, and picture tests. The results of this investigation indicate that none of these techniques is a solution of the problem of accurate measurement of reading comprehension.

SELECTED REFERENCES ON PRESCHOOL AND PARENTAL EDUCATION

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This bibliography² includes some of the more important publications that appeared during the period from December 1, 1932, to December 1, 1933. The plan of selection and classification is similar to that used last year, but because of limitations of space it has not been possible to include all references which one might have wished to include.

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73. ANDERSON, JOHN E. "The Relation of Differential Environments within a Given Culture to Child Care," *Fourth Conference on Research in Child Development*, Appendix G. Washington: Committee on Child Development, Division of Anthropology and Psychology, National Research Council, 1933.

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74. BAILEY, MARJORY W. "A Scale of Block Constructions for Young Children," *Child Development*, IV (June, 1933), 121-39.

Photographs of forty-four constructions built by children were rated twice by one hundred adults using the method of equal-appearing intervals. Results showed that it was possible by this method to develop reliable scales for measuring block constructions of young children.

75. BAUDOUIN, CHARLES. *The Mind of the Child*. Translated by E. and C. Paul. New York: Dodd, Mead & Co., 1933. Pp. 282.

The mind of the child is examined from the point of view of the complexes existing in it, which are illustrated with actual observations.

¹ The writer wishes to acknowledge the assistance of Louise Gates in preparing this bibliography.

² See also Items 321, 332, and 339 in the list of selected references appearing in the May, 1933, number of the *School Review*.

76. BAYLEY, NANCY. *Mental Growth during the First Three Years*. Genetic Psychology Monographs, Vol. XIV, No. 1. Worcester, Massachusetts: Clark University Press, 1933. Pp. 1-92.
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83. CONRAD, HERBERT S. "The Personal Equation in Ratings. I, An Experimental Determination," *Pedagogical Seminary and Journal of Genetic Psychology*, XLI (December, 1932), 267-93.
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85. DAY, ELLA J. "The Development of Language in Twins. II, The Development of Twins: Their Resemblances and Differences," *Child Development*, III (December, 1932), 298-316.

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93. HALVERSON, H. M. "The Acquisition of Skill in Infancy," *Pedagogical Seminary and Journal of Genetic Psychology*, XLIII (September, 1933), 3-48.
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94. JERSILD, ARTHUR T. *Training and Growth in the Development of Children*. Child Development Monographs, No. 10. New York: Teachers' College, Columbia University, 1932. Pp. x+74.
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96. KELLOGG, W. N., and KELLOGG, L. A. *The Ape and the Child*. New York: McGraw-Hill Book Co., Inc., 1933. Pp. xiv+342.
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This final volume in Shirley's study deals with the manifestations of personality characteristics as observed by the investigators and reported by the mothers.

From the first, each child exhibited ways of behaving which were unique and showed a distinct personality.

113. SKEELS, HAROLD MANVILLE. *A Study of Some Factors in Form Board Accomplishments of Preschool Children*. University of Iowa Studies in Child Welfare, Vol. VII, No. 2. Iowa City, Iowa: University of Iowa, 1933. Pp. 148.
A report of the significance of such factors as position, size, and shape of objects in the form-board accomplishments of preschool children.
114. SMITH, MADORAH E. "Grammatical Errors in the Speech of Preschool Children," *Child Development*, IV (June, 1933), 183-90.
An analysis of the spontaneous conversation of 220 children, ranging in age from eighteen months to six years.
115. STAPLES, RUTH, and ANDERSON, ANGELINE C. "A Study of Outdoor Play, Appetite and Afternoon Sleep of Young Children," *Child Development*, IV (June, 1933), 191-95.
Little relation was found between the amount of morning outdoor play and noon food consumption or between the latter and the afternoon nap.
116. UPDEGRAFF, RUTH. "Preferential Handedness in Young Children," *Journal of Experimental Education*, I (December, 1932), 134-39.
Describes a test for determining hand preference in young children. Little or no age differences in hand dominance was found between the ages of two and six years—a finding which suggests that hand dominance is well established before the age of two.
117. UPDEGRAFF, RUTH. "The Correspondence between Handedness and Eyedness in Young Children," *Pedagogical Seminary and Journal of Genetic Psychology*, XLII (June, 1933), 490-92.
In children between the ages of two and six years, greater correspondence was found between right-handedness and right-eyedness than between left-handedness and left-eyedness, but in neither case was the relation invariable.
118. UPDEGRAFF, RUTH, and HERBST, E. K. "An Experimental Study of the Social Behavior Stimulated in Young Children by Certain Play Materials," *Pedagogical Seminary and Journal of Genetic Psychology*, XLII (June, 1933), 372-91.
Describes the variations in social behavior associated with the use of different play materials.
119. WARING, ETHEL B. "A Guide for Studying the Personality of a Young Child," *Journal of Experimental Education*, I (December, 1932), 96-109.
Describes a method whereby the child's behavior either in an everyday or a controlled situation may be classified.
120. WELLMAN, BETH L. "The Effect of Preschool Attendance upon the I Q," *Journal of Experimental Education*, I (December, 1932), 48-69.

Presents further evidence apparently showing that attendance at a nursery school brings about an increase in the intelligence quotient from autumn to spring, while the period from spring to autumn when the school is not in session is not marked by any appreciable change in test standing.

121. WILLIAMS, HAROLD M., SIEVERS, CLEMENT H., and HATTWICK, MELVIN S. *The Measurement of Musical Development*. University of Iowa Studies in Child Welfare, Vol. VII, No. 1. Iowa City, Iowa: University of Iowa, 1933. Pp. 192.

Deals with certain problems basic to the investigation of musical development in young children. Presents tentative scales for the measurement of rhythmic ability and for the study of pitch inflection in children's speech.

122. YOUNG, PAUL THOMAS. "Food Preferences and the Regulation of Eating," *Journal of Comparative Psychology*, XV (February, 1933), 167-76.

Shows the complexity and variability of hunger, appetite, and food preferences and their dependence on such factors as diet and disease.

NON-TECHNICAL BOOKS AND ARTICLES PRIMARILY FOR PARENTS, TEACHERS AND WORKERS IN THE FIELD OF PARENT EDUCATION

123. ALSCHULER, ROSE (Editor). *Two to Six*. New York: Wm. Morrow & Co., 1933. Pp. 160.

This book of suggestions for parents of young children is the result of the co-operative efforts of the author and the preprimary faculty of the Winnetka Public Schools in preparing a "unified continuous curriculum." Habit-formation, literature, music, and play are considered, and lists of books and materials appropriate for the preschool ages are included.

124. ANDERSON, JOHN E. *Happy Childhood*. New York: D. Appleton-Century Co., Inc., 1933. Pp. xx+322.

A discussion of the development and guidance of the child from birth to maturity.

125. ARBUTHNOT, MAY HILL. "Content in the Kindergarten Curriculum," *Journal of the National Education Association*, XXII (February, 1933), 41-43.

A comparison of the qualifications of the teacher and the subject matter taught in the kindergarten of ten years ago with present conditions.

126. DAVIS, MARY DABNEY, and HANSEN, ROWENA. *Nursery Schools: Their Development and Current Practices in the United States*. United States Office of Education Bulletin No. 9, 1932. Pp. vi+92.

An analysis of the administration and the operation of nursery schools.

127. FOSTER, JOSEPHINE. *Busy Childhood*. New York: D. Appleton-Century Co., Inc., 1933. Pp. xx+304.

Describes types of activities suitable for different ages and under different conditions, such as vacations and illness.

128. FREEMAN, G LA VERNE, and FREEMAN, RUTH SUNDERLIN. *The Child and His Picture Book*. Evanston, Illinois: Northwestern University Press, 1933. Pp. 102.

Describes the kind of picture-books preferred by children of nursery-school age.

129. JACK, LOIS M. "A Device for the Measurement of Parent Attitudes and Practices," *Researches in Parent Education*, I, pp. 137-49. University of Iowa Studies in Child Welfare, Vol. VI, Part IV. Iowa City, Iowa: University of Iowa, 1932.

By means of a standard interview, information was obtained from mothers concerning their practices in child-rearing before and after a course in parent education. There was considered to be a slight improvement during the four-month training period.

130. LOCHHEAD, JEWELL. *The Education of Young Children in England*. Teachers College Contributions to Education, No. 521. New York: Teachers' College, Columbia University, 1932. Pp. vi+226.

A critical comparison of English nursery schools, kindergartens, and infant schools with those in the United States.

131. OJEMANN, RALPH H. "A Standard for Estimating the Validity of Child Development Principles," *Researches in Parent Education*, I, pp. 95-114. University of Iowa Studies in Child Welfare, Vol. VI, Part II. Iowa City, Iowa: University of Iowa, 1932.

A method of developing a standard for estimating the validity of child-development principles as part of a program of research in parent education is described and illustrated by materials on training in eating habits.

132. PRUETTE, LORINE. *The Parent and the Happy Child*. New York: Henry Holt & Co., 1932. Pp. 290.

Considers the psychology of family life and of child development. Contains an inventory of parental attitudes.

133. REMER, LAURA L. "Handicaps of School Entrants: A Study of Traits Which Handicap Children Entering Kindergarten and First Grade," *Researches in Parent Education*, I, pp. 197-207. University of Iowa Studies in Child Welfare, Vol. VI, Part VI. Iowa City, Iowa: University of Iowa, 1932.

Nineteen teachers rated 734 children, who were entering school, on handicaps thought to be the causes for difficulties grouped as personality, intellectual, and language difficulties. Twenty per cent of the children were considered to be handicapped in one or more ways.

134. SCHICK, BÉLA, and ROSENSON, WILLIAM. *Child Care Today*. New York: Greenberg, Publisher, Inc., 1932. Pp. 320.

Contains chapters on prenatal care, infancy, the preschool child, and children's diseases. The book is written for mothers.

135. STODDARD, GEORGE D. "A Survey of Nursery School Costs," *Journal of Educational Research*, XXVI (January, 1933), 354-59.
An itemized survey of costs based on reports from sixty nursery schools
136. STODDARD, GEORGE D. (Editor). "Personality and Behavior of Children," *Childhood Education*, IX (April, 1933), 339-78.
The entire number is devoted to a series of papers on this subject.
137. STUART, HAROLD C. *Healthy Childhood*. New York: D. Appleton-Century Co., Inc., 1933. Pp. xxviii+394.
Deals with the parents' problems in aiding the child in acquiring and maintaining a healthy body.
138. THOMPSON, DOROTHY CANNON, and WASHBURN, RUTH WENDELL. "An Explanatory Outline for Lay Observers of Nursery Groups," *Childhood Education*, IX (May, 1933), 406-8.
Specific suggestions of what to look for when observing play groups or nursery-school groups of children.
139. WAGONER, LOVISA C. *The Development of Learning in Young Children*. New York: McGraw Hill Book Co., Inc., 1933. Pp. xiv+322.
Considers some of the steps by means of which the child acquires more efficient ways of responding in many situations.

Educational Writings

REVIEWS AND BOOK NOTES

An evaluation of teacher-rating practices.—The general question of the rating of teachers is not so prominent in educational circles as it was ten or fifteen years ago. Most administrators have made their decisions with regard to the use of rating schemes and have ceased arguing about the merits of the procedure. The National Education Association reported in 1928 that in 657 cities teachers were definitely rated on the quality of service rendered and that in 67 of these cities the teachers' ratings determined the amounts of the salary increases for the following year.

A dissertation¹ having to do with the rating of teachers should be of general interest provided the reader understands just what object the author had in mind in making the study. The author writes that in his study he made no attempt to prove or disprove the argument that teachers' salary schedules should be based in whole or in part on merit-rating as a measure of teaching efficiency and that he does not plead for the adoption or the continued use of the merit-type salary schedule. The study attempts to help those school executives who use merit-rating as a basis for salary schedules.

By a liberal use of quotations from such authorities in the field of education as Barr, Boyce, Cubberley, Elliott, Evenden, Knight, McCall, Rugg, and Starch, the author sets up a list of thirteen criteria or standards to govern the use and the administration of merit-rating as a basis for salary schedules. With these standards as measuring rods, he proceeds to evaluate merit-rating as practiced in fifty-nine different cities scattered throughout twenty states. The populations of these cities range from five thousand to one hundred thousand. In New York, New Jersey, Connecticut, and Delaware, the author visited the nine cities included in the study, from cities in other states information was secured by means of correspondence.

The results of the application of these standards are both interesting and illuminating. Most of the cities now using merit-rating as a basis for salary schedules have a long way to go if they are to bring their procedures up to the

¹ Lloyd Percy Young, *The Administration of Merit-Type Teachers' Salary Schedules*, Teachers College Contributions to Education, No. 552 New York: Teachers College, Columbia University, 1933. Pp x+104. \$1 50

standards developed by Young. In most of the cities studied the teachers have had little to do with preparing the scale on which their salary-schedule increases are based. In many cases little effort has been made to put the rating scheme on an objective basis. Forty-six per cent of the systems rated their teachers only once a year, instead of four times as the study recommends. Perhaps the most significant fact brought out by the investigation is the high ratings given teachers in most of the fifty-nine cities. The distribution curve of the ratings of the teachers is almost never normal but is decidedly skewed toward the higher ranges. In one system using three merit groups (A, B, and C) 130 teachers were rated A, 20 were rated B, and no teacher was rated C. The study makes it very evident that rating teachers is a most difficult task and, where used, is open to serious criticism.

Every school administrator now using teacher-rating as a basis for determining salaries should read this study and check his procedure. Certainly any school administrator who is considering the introduction of teacher-rating into his school system will find it greatly to his advantage to familiarize himself with Young's study.

FLOYD T. GOODIER

ASSISTANT STATE SUPERINTENDENT OF PUBLIC INSTRUCTION
SPRINGFIELD, ILLINOIS

Another introductory textbook in the field of education.—Determination of the content is a major problem to those who attempt to offer a general introductory course in the field of education. When such a course has been evolved, its content has been influenced by local "vested interests" and the personal interests of the instructor or the group of instructors offering it. Not infrequently the course as offered has appeared to contribute in an effective fashion to the training of prospective teachers, and the instructor is encouraged to expand his outline and offer the manuscript as a textbook to be used in other institutions. When published, the textbook is tried out, but in general it is found to be not particularly satisfactory. Such experiences cause one to wonder whether the success of the course in the institution where it was developed was not due largely to peculiar local conditions or to the personality of the instructor involved.

This query persisted in the mind of the reviewer as he read the pages of *An Orientation Course in Education*.¹ The content of the volume is organized about twenty-one problems grouped into six "units" bearing the following captions: "How the School of Today Came To Be," "Unrealized Ideals or the School of Tomorrow," "The Scientific Method in Education," "Guiding the Learner," "The Machinery of Our Schools," and "The Teacher." Following the discussion

¹ Joseph S. Butterweck and J. Conrad Seegers, *An Orientation Course in Education*. Boston: Houghton Mifflin Co., 1933 Pp. vi+392. \$2.00.

of each problem there are a list of questions and a small number of collateral readings. Each chapter ends with a bibliography. The authors have attempted to formulate "the major problems of the curriculum, teaching, administration, and educational research" (p. vii) and to deal with these problems in a way that will give the student "a new set of guiding principles which [will] enable him to become intelligently critical of the school practice to which he was subjected in the past, and to give him also the organized college experiences which are designed to equip him for the kind of school which his new philosophy visions as the ideal" (p. vi).

Although the authors announce that they have avoided an encyclopedic treatment and the number of problems is not large, the scope of the volume is certainly not narrow. For example, under the heading of the first problem, "The Story of Education," the history of education is sketched from primitive times down to John Dewey—in nineteen pages. Schools of different lands (England, France, Germany, and Russia) are disposed of in four pages. Less comprehensive topics would seem desirable in an introductory course in education. If the history of education is to be treated, it probably should be restricted to the modern period. Three problems are dealt with in the chapter on "The Scientific Method in Education": Problem A, "What Is the Scientific Method?" Problem B, "What Are Its Possibilities in Education?" Problem C, "What Instruments of Research Have Been Developed for the Educator?" The discussion of these problems gives the reader a very inadequate idea of the modern research movement. Furthermore, the collateral readings will not help him very much. On the whole, the book impresses the reviewer as rather highly abstract and philosophical and not suitable for a student audience of the type which the authors appear to have had in mind.

Several minor criticisms may be noted. In a few cases secondary sources are used. The collateral readings and the chapter bibliographies are not up to date and do not appear to have been wisely selected. A casual examination revealed an erroneous date and an incorrect authorship of a reference. Certain pictures appear at the beginning of the several chapters; but they are without captions, except in the case of the final chapter, and their intended function is not apparent to the reader.

In the judgment of the reviewer, this volume cannot be regarded as an important contribution to educational literature. In the hands of a widely read and skilful instructor it might be an effective textbook, but in other situations it probably will not be considered satisfactory.

WALTER S. MONROE

UNIVERSITY OF ILLINOIS

Local school control in Massachusetts—Educational leaders in states that patterned their school organizations after the local-district system developed in Massachusetts during the late Colonial period and the first century of state-

hood should read with interest a study¹ which analyzes and describes the current methods of school administration in the state. The study should prove especially valuable to students of school administration and to school officers in town and city school systems.

The merits of the Massachusetts school system are attributed to two influences, namely, (1) a century of able leadership in the position of state commissioner of public education—a leadership the power of which has consisted in the ability of the leaders to educate, to persuade, and to direct, rather than to coerce—and (2) the traditional method of local government in which both civil and school policies are discussed in town meetings. The latter influence is believed to have resulted in the thorough dissemination of the ideals of public education among the citizens of Massachusetts and has kept alive their interest in popular education. As a result, the legislature and the courts have constantly adhered to policies singularly sympathetic toward education with respect to provisions for its organization, control, and support, and the interpretation of these provisions when called in question.

Since the abolishment of the district system in 1882, the unit of civil and educational administration in Massachusetts has been the town or the city. The state is organized at present into 355 local units, 39 of which are cities and the remainder towns. The people at an annual town meeting elect officers, decide general policies, and appropriate funds. The officers elected have responsibilities for general government and schools. The school committee and the selectmen of the town have concurrent authority in the administration of the schools. The former, for example, contract expenditures, but the latter approve the bills. The school and the civil affairs of the towns are therefore closely related. The same intimate relation is maintained between education and government in the cities. This relation is a subject of much controversy. Political economists and politicians generally favor the plan; school officers and students of educational administration are generally opposed.

Other features of school administration discussed in the volume are the following: the local organization for administration and supervision, designated in Massachusetts as "the superintendency union"; the legal basis, the personnel, the organization, and the methods of administration of the school committee; the status of the superintendent of schools; problems pertaining to the fiscal control of schools; the relations of auxiliary school functions to local government; and the relations of the schools to the public. Space requirements prevent discussion of these phases of school administration. Persons interested in the relations of the school and community should read the volume in full.

The reviewer believes that the development in local school control in Massachusetts has produced results which must be striven for throughout the country

¹ L. Leland Dudley, *The School and the Community: A Study of Local Control in the Public Schools of Massachusetts*. Harvard Studies in Education, Vol. 22. Cambridge, Massachusetts: Harvard University Press, 1933. Pp. xiv+176. \$2.50.

regardless of the form of school organization in vogue. Perhaps the parent-teachers' associations in other sections of the country can be made to approximate in function the Massachusetts town meeting. If so, the heritage of ideals with respect to public education may be preserved among the people in *general*. The detachment of education from civil administration in many states causes education to gain in some respects and, without doubt, to lose in others. Dudley's study should contribute much to the clarification of the results to be expected from popular participation in school affairs by supporting communities.

WILLIAM C. REAVIS

A unique book in the field of primary art instruction.—Children who use *Art Stories*¹ will peruse it eagerly because it ministers to the universal joy in beauty. The purpose of the book is to keep this joy growing by the powerful process of telling stories in which activities in art form the plot and beauty is the hero.

These experiences in perception and creation of beauty are purposeful and comprehensive, such as seeing and discussing the colors of the rainbow and finding the same colors elsewhere; observing landscape beauty in both nature and art; drawing and modeling animals; making toy houses, towns, and parks; building a birdhouse; attaining beauty in the Christmas activities of toy-making, package-wrapping, and tree-decorating; seeing beauty and order in the playroom, a doll's house, and costumes; discussing "Baby Stuart" and other related pictures.

The authors avoid giving set lessons and pedantic directions but skilfully induce activity in thinking and doing where beauty is the end. The illustrations are admirable; the saturated colors, well harmonized, which are used on nearly every page are a triumph indeed and will cause the book to be treasured by anyone, young or old, who obtains it. The text uses a simple vocabulary, approved for first-grade comprehension, and will induce assimilation in a way that the merely sensuous pleasure of looking at the pleasing color and form designs in the book might not alone accomplish.

Many books on art appreciation, both in choice of examples and in discussions, overemphasize sentimentality, use pictures as texts for moralizing, and praise the artist only for his imitative skill and not for his power in design construction (as well study a great writer for his spelling). This book avoids these pitfalls; it is fresh, stimulating, and vigorous in getting directly at art matters.

If the series extends to the capacity of high-school pupils, it can perform a real service by broadening the usual range of picture-study. Giotto, Signorelli, Michelangelo, El Greco, Van Gogh, Renoir, Cézanne, Demuth, etc., have a sturdy strength which is too little emphasized in the study of the usual lists, which include such artists as Raphael, Murillo, Millet, Corot, Monet, Whistler,

¹ William G. Whitford, Edna B. Liek, and William S. Gray, *Art Stories, Book One*. Chicago: Scott, Foresman & Co., 1933. Pp. 144. \$0.68

Rosa Bonheur, etc. Again, the choice made from the works of great artists is often emasculated by including only their weaker examples.

A far-reaching application of design principles in the study of paintings, sculptures, architecture, and everyday articles is a much-needed supplement to a study of the sentimental, superficially pretty, and photographic aspects of art.

This book is the most sturdy step in the right direction which I have seen in the field of primary art instruction.

ARTHUR B. CLARK

PROFESSOR EMERITUS OF EDUCATION IN GRAPHIC ART
STANFORD UNIVERSITY

Methods and plans for teaching music in rural schools.—Textbooks in music for use in rural or one- and two-room schools have appeared occasionally, but a treatise telling teachers not only what to teach in such situations but how to teach it is unique. Such a book, however, has been published.¹ It discusses the place and the aims of music in rural education, subject matter, the music program, and procedures and outcomes of teaching.

Recognizing the fact that conditions change from time to time and from place to place, the authors outline in some detail four types of plans to care for the needs and the interests of pupils and to provide satisfactory training: the rote plan, the project plan, the chorus plan, and the monthly-outline plan. It is the thesis of the authors that music instruction at all times should develop appreciation for good music. To this end, they urge teachers to consider individual differences of children and to plan lessons which will give proper opportunity to every child to participate in musical activities according to his capacity. Thus, some children will master the musical score, while others will learn only the most rudimentary facts about notation.

Unless instruction in music is such that the child thinks it an interesting and a worth-while subject and utilizes it generally in school, home, and community, its value as an educational or a cultural subject is slight. In this connection, suggestions for an integrated curriculum which stresses the learning of music, not only for its own sake, but for its use in other fields, such as history, geography, literature, art, and physical training, are timely and valuable.

The section of the book devoted to methods of teaching treats briefly but clearly of voice, music appreciation, correlation, the rhythm band, rhythm play, and the scheduling of the music period. A list of correlating recorded selections, a chapter on musical theory, and several daily programs of studies in rural schools are included to aid the teacher.

The Preface of the book states that it is not the purpose of the writers to give

¹ Osbourne McConathy, W. Otto Miessner, Edward Bailey Birge, and Mabel E. Bray, *Music in Rural Education: A Program for the Teacher in One- and Two-Room Schools, Based on "The Music Hour," One-Book Course*. Newark, New Jersey: Silver, Burdett & Co., 1933. Pp. xiv+290. \$1.20.

a philosophical discussion of music but rather to offer a plan of work for rural schools based on the One-Book Course of *The Music Hour* series. Although this plan limits its treatment and, to a certain extent, its usefulness, the practical and progressive suggestions set forth make the book a helpful manual for all teachers whether in rural or urban schools. It is, therefore, a welcome contribution to the limited number of books on music education now available.

UNIVERSITY OF IOWA

ANNE E. PIERCE

Junior high school language.—The past decade has witnessed a most remarkable advance in the writing of textbooks for instruction in English. In the place of the dull, uninteresting books of rules or the even more forbidding manuals of drill, we now have series of bright, attractive volumes which in point of format are more alluring than the novels of twenty years ago and in content are designed primarily to meet the interests, the activities, and the needs of the pupils. The authors of *Junior English in Action*¹ have availed themselves of every advance in the writing and the printing of textbooks and have added unique features of their own. The result is a series of textbooks with every aid to the teacher that attractiveness, clarity, and orderly development can provide.

The leading feature of this series is its emphasis on conversation and oral discussion. While some of the model conversations seem a little stilted and the aim of making the pupil "speech conscious" may be open to objection, the practical exercises calling for free and interesting conversation are numerous and extraordinarily good. The major emphasis in Book One is on speech activities—informal conversations, telling stories, explaining something. In the other volumes, though written composition is of course more prominent, speech is never neglected and the social graces of conversation are admirably worked in.

Other outstanding features are the inclusion of a penmanship scale, to motivate pupils to improve their writing, the use of pupil exercises, rather than literary selections, as models for motivation of writing and speaking; and the profuse use of illustrations, unusual in subject and interesting to a high degree.

The language program quite properly places emphasis on the sentence. Book One, for Grade VII, concentrates on the subject and the verb, the punctuation of simple sentences, and the recognition of the major parts of speech. Book Two reviews and extends the simple sentence and moves on to compound and complex sentences, which are developed and extended in Book Three. The treatment of the sentence is excellent, but the amount of concomitant grammar seems to the reviewer far too large. The discussion in Book Two of transitive and intransitive verbs, active and passive voice, and of participles, gerunds, and infinitives might well be postponed one or two grades, with a resultant improvement in the mastery of the sentence in Grade VIII.

¹ J. C. Tressler and Marguerite B. Shelmadine, *Junior English in Action*. Book One, pp. xiv+350, \$1.00, Book Two, pp. xiv+420, \$1.08; Book Three, pp. xiv+460, \$1.16. Boston: D. C. Heath & Co., 1933.

Word study and the use of the dictionary are well represented, in addition to stimulating exercises on "The Right Word." Space forbids more than mention of the inviting sections on letter-writing, report-making, précis-writing, and the use of the library. With the exception of the overloaded grammar program and the failure to note the social appropriateness of different levels of usage, *Junior English in Action* is an exceptionally bright, vigorous, and well-written series of language books for the junior high school, admirably suited to the needs and interests of pupils in Grades VII, VIII, and IX.

ROBERT C. POOLEY

UNIVERSITY OF WISCONSIN

American history for the middle grades.—In contrast with several recent histories for the elementary school which either emphasize the life of the people or attempt a more than ordinarily mature interpretation of the development of American society, this new textbook¹ follows more conservatively the usual elementary-school narrative of American development, stressing settlements, explorations, additions of territory, and, to a less extent, wars. Beginning where the same authors' *Finding America* left off, the new volume distributes its emphasis one-half to the Colonial period, one-third to the period from the Revolution through the Civil War, and one-sixth to the developments after the Civil War. The most recent period actually receives a much smaller fraction because this part of the book includes brief topical histories of invention, transportation, and communication, substantial parts of which are concerned with developments before 1865. The rather miscellaneous character of this last part of the book is somewhat typical of the entire volume. In addition to the topical histories there are chapters on Edison, polar exploration, and the World War.

To motivate the narrative, the authors plan to use biographical materials as much as possible. This plan is carried out with considerable success, and the purely biographical is usually distinctly subordinated to the general account. Each of the six large divisions of the book is introduced by a small group of questions and activities addressed to the pupil. Each chapter then is introduced with a brief overview. At the end of the chapter is a pupil's self-test on what he has just read. The test is followed by suggestions for activities, thought questions, and a list of new words. To each large division is appended a brief list of parallel textbooks, and at the end of the volume appears a valuable group of suggestions to teachers. The narrative is characterized by short sentences and a simple vocabulary suitable for fifth- and sixth-grade pupils.

The authors frankly state that the book does not undertake to teach an organized body of facts but to interest children in history, to arouse their curiosity for further study, and to give meaning to the institutions and national traditions of the United States through a series of incidents connected by a slight plot. That this book will interest pupils can be granted, but that it will develop a sub-

¹ Olive E. Smallidge, with the collaboration of Frederic L. Paxson, *Builders of Our Nation*. Boston: Houghton Mifflin Co., 1933. Pp viii+632. \$1.36.

stantial sense of continuity may well be doubted. Only two phases tend to give an understanding of the development of American society: first, the reasonably chronological account of the settlement and the territorial growth of continental United States and, second, the brief topical accounts of invention, transportation, and communication. If we are to justify history as a separate course at the grade level for which this book is intended, it seems that we must do better than that, for a group of selected historical tales in the readers will do as much.

One may well ask, "What have the explorations of Peary and Byrd to do with American development as compared with the rise of the city or the change from handicraft to machine manufacture?" In contrast to the opinion of the authors of this volume, many teachers feel that they are teaching simple concepts of these developments successfully in the middle grades. Unless these teachers are mistaken, *Builders of Our Nation* defers too much to the pupils' affection for interesting stories.

ELMER ELLIS

UNIVERSITY OF MISSOURI

Evaluating the school health program.—Few, if any, fields of education have received more subjective treatment in proportion to objective analysis than has that of health. It is refreshing, therefore, to read a new monograph¹ published by the American Child Health Association. The two aims of the monograph are clearly stated: "to find the qualities underlying school health results and to evaluate a sampling of public schools in respect to these qualities" (p. 5).

What might be done in a health program and what really is done are two different things, declares this author. He then describes the method of procedure employed in the study as an attempt to evaluate the health programs of the schools in terms of health achievement made by the children.

By use of careful and detailed examinations covering selected items, an attempt was made to determine the degree to which teachers were aware of their pupils' health deficiencies. Examinations of the children under properly controlled conditions were then made, and the statistical comparison of these results with the teachers' statements showed both the degree to which the teachers were aware of deficiencies and the extent to which they were capable of correctly diagnosing symptoms.

There is no questioning the statistical procedures involved. A full description of the technique is given in the appendixes, together with wide samplings of health procedures and test materials and a full description of the measures of health practice and knowledge. While the monograph is designed in general for the non-statistical reader, it is nevertheless illustrated with enough graphs and tables to show the chief elements of technique and to give dependable evidence of the validity of the derived results. An example of the dependability of the

¹ Raymond Franzen, *An Evaluation of School Health Procedures*. School Health Research Monographs, No. V. New York: American Child Health Association, 1933 Pp xii+128.

study is the fact that a triple-selection method was used in choosing the items of procedure. This threefold critical analysis reduced the number of items from 827 to 169.

The reviewer's only adverse criticism of the technique concerns the fact that only seventy schools were embraced in the study. Probably this number is sufficiently large in the case of most of the analyses, but in a few cases doubt arises concerning the use of so small a sampling. For instance, among the devices used by schools, the item "Lectures by doctors" is listed among "Devices the Absence of Which Is Associated with Better Results on Health Tests" (p. 81), as is also the device "Modern Health Crusade." Previously the statement is made that "these are practices the presence of which is significantly associated with poor health results" (p. 80). While not defending these particular practices, the reviewer is inclined to wonder how they can be causally related to the phenomenon of poor health results in the schools and whether a greater sampling of schools—say, two or three hundred—would not certainly shift these items to the other side of the comparison or at least negate the significance of their present position. However, the entire study is an example of such a thorough, impartial, and objective research that it must surely point the way to better methods of school-procedure analysis in the future.

Some conclusions drawn from the study are of particular interest and meaning. In the first place, teacher efficiency in diagnosis is low, the teachers failing to show awareness of pupil health needs; but the teachers' accuracy (that is, their ability to diagnose correctly a condition when it has been brought to their attention) is relatively high. In the second place, while teachers "have knowledge of only a very small proportion of the cases that are in definite need of professional attention, there is definite evidence that the teacher is able to perform a very useful function in initiation and reference" (p. 19). The "teacher could be so trained that her suspicions about teeth, vision, hearing, and nutritional status could be relied upon as definite evidence that the child needed a thorough examination" (p. 69).

The author goes on to say that technical knowledge as such does not appear to be a distinctive need on the part of the teacher; rather, her "methods of teaching, manner of approach, [and] knowledge of children" (p. 75) appear to be the vital factors in good health procedure. Present status of such knowledge and method, on the part of both the teacher and the nurse, is low, he declares, as is also the teacher's acquaintance with authoritative books and journals in the field.

In summary, it may be stated that the book is indicative of a definite advance in the professional and scientific treatment of curriculum analysis and procedure evaluation. It is exhaustive within its area of investigation. The results of the study are clear, definite, and of unquestioned value for the teacher or the administrator who is interested in the improvement of the program of health education within the school.

DOUGLAS E. LAWSON

Nutrition study in the elementary school.—Most teachers in the elementary school recognize the value of instruction in nutrition, but many keenly feel the need of help in giving such instruction. A volume has recently appeared that gives promise of providing needed subject matter as well as a method of using such materials of teaching.¹

The content of the volume is divided into thirty-three chapters or lessons, built around such interesting titles as "Why We Need Food," "Foods That Furnish Grow-Material," "Foods That Furnish Go-Material." The introductions or previews are well developed, and the lessons are followed by exercises to be worked out by the pupils. Many teachers will want to increase the number of exercises, however, as not enough are provided to secure the degree of mastery desired.

The method of presentation is implied in the title of the book. After a brief introduction the overview or presentation is "broadcast" and used as a basis for class discussion and the working of exercises. This feature of the book might prove either advantageous or disadvantageous. If broadcasting is yet a novelty to the children, the method would prove to be a stimulating factor. On the other hand, if the children are no longer thrilled by the radio or if the use of the method should "get old" to them, the method, so intimately a part of the volume, might become monotonous and fail to be the motivating force anticipated.

The possibility that the method of presentation here included might prove a disadvantage emphasizes the contention made by some that curriculum materials should not be combined with methods of presentation. The splendid, thought-provoking content material given would be difficult to use with any other method of presentation. Another disadvantage is found in the fact that the book contains some material intended only for the teacher. The text is for the pupils and might well contain directions for study, but pupils are not interested in the teacher's procedures. Why can't textbooks be written for children and separate books be prepared for the teachers? In the introductory portion of this book are five pages "For the Teacher To Read", on page 11 is a footnote of eight lines addressed "To the Teacher"; and in the Appendix are two pages of "Suggestions to the Teacher on Weighing and Measuring." If an introductory note addressed to the pupils had been substituted for the pages "For the Teacher To Read," the pupils could have been challenged, methods of study could have been given, and the presence of the glossary pointed out. Perhaps these objections are too general in character to be applied to a specific book.

There is one specific point to which the reviewer desires to call attention. The authors state: "We had always supposed that the Japanese were a smaller race than Europeans and Americans; we had thought that they were just born to be smaller; but when Japanese children in the United States were examined, they were found to be taller and heavier than Japanese children in Japan"

¹ J. Mace Address and I. H. Goldberger, *Broadcasting Health* Boston Ginn & Co., 1933. Pp. x+402. \$0.80.

(p. 20). The exact truth of this quotation is not questioned, but the implication is. The quotation is introduced by a reference to a need for plenty of good food and to the fact that the farmer is "careful that his pigs, chickens, and colts are well fed." Any rural child knows full well that no matter what he feeds a Hampshire pig, it will never develop into as large a hog as a Poland China pig, as carefully fed, might become, he also knows that, no matter what he feeds a bantam chick, it will never weigh as much as a plymouth rock chick may weigh in time. The author's purpose is to lead the children to a desire for plenty of well-selected food. The illustration may achieve the desired results in some instances, but the children are going to have to unlearn something later on. The children are also going to learn ultimately that some of them will not be six feet tall and weigh 185 pounds no matter what they eat.

The foregoing comments should not lead the reader to feel that the book has no merit. Some splendid content materials are presented which should prove valuable to elementary teachers. A separate book giving more detailed directions to teachers on how to prepare for each lesson would make the volume much more useful.

CLEM O. THOMPSON

An answer to Robert H. Lane.—In the December, 1933, number of the *Elementary School Journal* appeared a letter from Mr. Robert H. Lane, in which he took exception to statements made by Professor Henry Harap in a review of the book *A Teacher's Guidebook to the Activity Program*. Professor Harap has written us the following letter with reference to this review, which we are quoting with his permission.

I have checked Mr Lane's refutation of my statement that his conception of activity is somewhat narrow, and I have found no cause to withdraw that statement. There is only one citation that suggests a broader conception; but that refers to a summary paragraph to chapter i which I may have overlooked. I had read the remainder of his citations and had taken them into consideration in arriving at my conclusion that his conception of an activity is somewhat narrow.

CURRENT PUBLICATIONS RECEIVED

GENERAL EDUCATIONAL METHOD, HISTORY, THEORY AND PRACTICE

BACHE, LOUISE FRANKLIN. *Health Education in an American City: An Account of a Five-Year Program in Syracuse, New York*. Garden City, New York: Published for the Milbank Memorial Fund by Doubleday, Doran & Co., Inc., 1934. Pp. xii+116.

Charters and Basic Laws of Selected American Universities and Colleges. Compiled and edited by Edward C. Elliott and M. M. Chambers. New York:

- Carnegie Foundation for the Advancement of Teaching in Co-operation with Purdue University, 1934. Pp. viii+640.
- COOKE, DENNIS H. *Problems of the Teaching Personnel*. New York: Longmans, Green & Co., 1933. Pp. xvi+384. \$3.00
- GABLER, EARL R., and FREDERICK, ROBERT W. *Methods of Teaching in Junior and Senior High School: A Guidebook*. New York: Inor Publishing Co., 1933. Pp. xii+208.
- GRAHAM, JESSIE. *The Evolution of Business Education in the United States and Its Implications for Business-Teacher Education*. Southern California Education Monographs, 1933-34 Series, No. 2. Los Angeles, California: University of Southern California Press, 1933. Pp. xxiv+228.
- KANDEL, ISAAC L. *The Dilemma of Democracy*. The Inglis Lecture, 1934. Cambridge, Massachusetts: Harvard University Press, 1934. Pp. 80. \$1.00.
- KRAMER, EDNA E. *A First Course in Educational Statistics*. Montclair, New Jersey: Edna E. Kramer (New Jersey State Teachers College), 1934. Pp. ii+72.
- LAZERTE, M. E. *The Development of Problem-Solving Ability in Arithmetic: A Summary of Investigations*. Toronto, Canada: Clarke, Irwin & Co., Ltd., 1933. Pp. xviii+136. \$1.25.
- MULHERN, JAMES. *A History of Secondary Education in Pennsylvania*. Philadelphia, Pennsylvania: James Mulhern (University of Pennsylvania), 1933. Pp. xvi+714.
- Selected References in Education, 1933*. Reprinted from the *School Review* and the *Elementary School Journal* for January to December, 1933. Supplementary Educational Monographs, No. 41. Chicago: Department of Education, University of Chicago, 1934. Pp. x+190. \$0.90.
- SMITH, HENRY LESTER, and LITTELL, HAROLD. *Education in Latin America*. Chicago: American Book Co., 1934. Pp. xiv+432.
- The Year Book of Education, 1934*. Edited by Lord Eustace Percy. London: Evans Bros., Ltd., 1934. Pp. 960.

BOOKS PRIMARILY FOR ELEMENTARY-SCHOOL
TEACHERS AND PUPILS

- AGNEW, KATE E., and COBLE, MARGARET. *Baby Animals on the Farm*. Yonkers-on-Hudson, New York: World Book Co., 1933. Pp. vi+154. \$0.68.
- MYERS, GEORGE E., LITTLE, GLADYS M., and ROBINSON, SARAH A. *Planning Your Future: An Occupational Civics Text for Junior High School Grades*. New York: McGraw-Hill Book Co., Inc., 1934 (revised). Pp. xiv+420. \$1 50.
- WEAVER, ROBERT B., and HILL, HOWARD C. *United States History By Units*. Chicago: W. F. Quarrie & Co., 1933. Pp. x+184.

PUBLICATIONS OF THE UNITED STATES OFFICE OF EDUCATION
AND OTHER MATERIAL IN PAMPHLET FORM

- CARR, WILLIAM G. *School Finance*. Stanford University, California: Stanford University Press, 1933. Pp. vi+106.
- GOOD, WARREN R. *The Elements of Statistics: A Simple Introductory Course*. Ann Arbor, Michigan: Ann Arbor Press, 1933. Pp. 28. \$0.50.
- GRAVES, FRANK PIERREPONT. *Report of a Study of New York City Schools: Part I, The Administrative-Supervisory Organization*, pp. 90, 1933; *Part II, Evaluation of Achievement*, pp. 46, 1934. Albany, New York: University of the State of New York Press.
- Reading List—Junior and Senior High Schools*. Bulletin No. 80. Harrisburg, Pennsylvania: State Department of Public Instruction, 1933. Pp. 44.
- Recent issues of the Office of Education:
- Bulletin No. 17, 1932. *National Survey of Secondary Education Monograph No. 3—Part-Time Secondary Schools* by Grayson N. Kefauver, Victor H. Noll, and C. Elwood Drake. Pp. vi+98.
- Bulletin No. 17, 1932. *National Survey of Secondary Education Monograph No. 16—Interpreting the Secondary School to the Public* by Belmont Farley. Pp. vi+114.
- Bulletin No. 8, 1933—*A Background Study of Negro College Students* by Ambrose Caliver. Pp. viii+132.
- Bulletin No. 12, 1933—*The Education of Native and Minority Groups: A Bibliography, 1923-1932*, by Katherine M. Cook and Florence E. Reynolds. Pp. vi+58.
- Bulletin No. 14, 1933—*The Effects of the Economic Depression on Education in Other Countries* by James F. Abel. Pp. vi+38.
- SMITH, W. R., O'BRIEN, F. P., and BAYLES, E. E. *The Value of Professional Training in Education: Including a Review of the A.A.U.P. Bulletin on Required Courses in Education*. University of Kansas Bulletin of Education, Special Number. Lawrence, Kansas: University of Kansas, 1933. Pp. 16.
- Statistics of California Junior Colleges for the School Year Ending June 30, 1933*. Department of Education Bulletin, No. 17. Sacramento, California: State Department of Education, 1933. Pp. viii+34.
- Youth Never Comes Again*. Edited by Clinch Calkins. New York: Committee on Unemployed Youth (450 Seventh Avenue), 1933. Pp. 72. \$0.25.

MISCELLANEOUS PUBLICATIONS

- WASHCO, ALEC, JR. *The Effects of Music upon Pulse-Rate, Blood-Pressure and Mental Imagery*. Philadelphia, Pennsylvania: Temple University, 1933. Pp. 270.

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THE BEST PLAN FOR THE ADMINISTRATION OF THE PUBLIC SCHOOLS OF A CITY

For a number of years the city of Chattanooga, Tennessee, has had a commission form of government. The department of education is one of the departments of the city government and is under the general administrative control of one of the commissioners, who is known as the commissioner of education. At the last session of the legislature a bill was passed authorizing the citizens of Chattanooga by referendum vote to substitute a board of education for the present commission form of school administration.

One of the citizens of Chattanooga has addressed the following inquiry to Professor Nelson B. Henry, of the Department of Education of the University of Chicago.

For our enlightenment and for our information I wish that you would write me which, in your opinion, is the better of the two plans of school administration, the commissioner-of-education plan or the board of education. If your choice does not lie in either of these two, I would be interested in hearing from you as to what, in your judgment, is the best plan of administration of the public schools of a city.

For some time Professor Henry, in co-operation with Professor Leonard D. White, of the Department of Political Science of the University of Chicago, has been engaged in making a case-study investigation of the relations of schools to city government. Whatever opinion he may entertain with respect to such relations grows out of an intimate knowledge of their practical consequences. For that reason, we quote at some length the pertinent portions of Professor Henry's answer to the inquiry addressed to him.

My impression is that the type of organization for the control of public education does not determine the character of the administration of the schools. . . . We have the examples of Pittsburgh, Cincinnati, Baltimore, and Louisville, where the schools are entirely free from the handicap of political influence; although in the earlier history of each of these cities the schools were very largely dominated by political machines. On the other hand, we have the notorious example of Chicago, where practically all policies with respect to the schools are decided in the city hall. Nor can these differences be explained in terms of manner of selection of the school board itself. In both Chicago and Baltimore the members of the board of education are appointed by the mayor. In both instances the mayor is elected on a partisan ticket and is sponsored by the usual type of political machine. In Baltimore the mayor, if so disposed, would not appoint politicians to membership on the board of education because the community revolted against such procedure several years ago and will not now tolerate any political interference with the schools. In Chicago the board of education is legally independent of the mayor once the appointment is made and approved by the city council. But members of the board of education are ordinarily in political collusion with the dominating political machine and are entirely subservient to the dictates of the mayor and the machine on all matters in which the politicians are interested. In Pittsburgh the board of education is appointed by the judges of the Court of Common Pleas. The result is all that could possibly be asked for in the way of representation of the best type of citizenship on the board. If such a plan were followed at the present time in Chicago, where judges are nominated and elected by the same political forces which usually control the elections of other public officials, there is no assurance that members of the board of education would be selected on any other basis than under the present plan. In both Louisville and Cincinnati the board of education is elected by popular vote, and in both cities we find a splendid board of education. If the members of the board of education of Chicago were chosen by popular election, there is no question but that we would have the same kind of board that we now have. These examples will indicate to you the basis of my conviction that you cannot settle the question of the character of the administration of the schools of your city by providing for any given plan of control. If the citizens of your community cannot secure the proper type of control through the agency of the

commissioner, it seems to me very doubtful that their interest in the schools would manifest itself in any very different way in connection with the election of members to the school board. In every situation the politicians will be alert to take advantage of whatever possibilities they have to establish their control, and invariably they will go as far as they dare to go in the exercise of control over the schools for political purposes.

In at least one respect it seems to me that the commissioner plan ought to provide an easier way for the community to regulate the type of control to which the schools are subjected than is likely to be the case under the school-board plan. Each member of a school board is likely to have some particular interest in the school system which leads him to attempt to exercise some measure of control over some given phase of the school work or some particular policy of school administration. The result is a tendency for the board members to make concessions to one another and in time to build up a set of traditions which make the board of education an administrative rather than a policy-forming group. Dr. Judd has written an excellent statement about the tendency of school boards to interfere with the proper administration of the public schools. You will find this article in the February number of the *Nation's Schools*, published at 919 North Michigan Avenue, Chicago. Under the commissioner plan the responsibility for any administrative mismanagement would be definitely fixed upon one individual rather than distributed among several as is the case when a school board is in control. It would seem to me that this would make it easier for the community to demand and secure the right kind of control.

My own observations lead me to believe that the internal administrative organization is at least as vital a matter with respect to the welfare of the schools as is the type of authoritative control. In cities where the school system has two or more co-ordinate executive officers, there is likely to be a rather close alignment of the board of education with the business executive and a disposition on the part of the board to manifest more or less aloofness in relation to the office of the superintendent. Moreover, the board quickly finds that it can use the officer of an independent business executive to discharge political obligations with impunity, whereas it always finds the superintendent an obstacle to such efforts when the superintendent carries the entire responsibility for the character of the administration of the schools. Some time ago I had occasion to explain the effect of a divided administrative authority in the school system of Chicago, and the paper was published in the *Elementary School Journal* for March, 1932. . . .

I am not at all certain that this letter has given you anything that will be of material advantage to you in your effort to find out what is the best thing to do for the schools of Chattanooga. Frankly, I do not have a very positive opinion on the matter of the best type of control. The most pronounced opinion I have is that the type of control will not in itself insure a good administration of the school system in your city any more than it explains the good or bad administration of different school systems. I think that any community can have as good administration in the schools as the intelligent leaders of the community

will take the trouble to secure. It may be that this result can be obtained more readily in some communities under the board-of-education plan and in other communities under some other plan. If I were a resident of your city, I would support any plan on which the good citizens of the community would unite for the avowed purpose of securing and maintaining an absolutely non-political administration of the schools.

AN EDUCATIONAL ADVISORY COMMITTEE FOR THE STATE OF NEW YORK

The New York State Economic Council has announced the appointment of an Educational Advisory Committee to be composed of the following persons: Henry W. Holmes, dean of the Harvard Graduate School of Education; William S. Learned, Carnegie Foundation for the Advancement of Teaching; Charles R. Mann, director of the American Council of Education; Albert B. Meredith, head of the Department of School Administration, New York University; and Frank E. Spaulding, professor of education, Yale University. The services of the committee will be available free of charge to any community of the state which may care to avail itself of expert appraisal of its educational program. The following statement by Merwin K. Hart, president of the Economic Council, describes in some detail the nature of the services which it is hoped the committee may be able to perform.

Several years of study and effort devoted to the promotion of efficiency and economy in the conduct of public affairs in this state have impressed the New York State Economic Council with the critical character of problems involved in the current maintenance of public education. On the one hand, the raising of funds for the support of schools, as for all public enterprises, grows constantly more difficult, and the demands of taxpayers for relief from burdens that seem intolerable are becoming ever more impatiently insistent. On the other hand, there is growing anxiety and redoubled effort on the part of those in charge of the schools to maintain and improve an educational program developed in the days of financial prosperity.

Taxpayers demanding relief can hardly be expected to overlook the possibilities of economies in the public schools, which absorb a large proportion of the public revenues. Unfortunately, taxpayers, as a rule, have too little contact with the program of public education to appreciate the full significance and relative importance of the various parts of that program. As a result, their demands for tax relief, often expressed in terms of definite curtailments and eliminations in the educational program, are likely to be interpreted by educators as an attack on the school system. Attack means hostility; those attacking are felt to be enemies of public education. Assigned that rôle, it is extremely

difficult for the over-burdened taxpayer not to seem, at least, to justify it. But as every sincere person must recognize, no condition could be worse for public education and the public welfare than hostility between those in charge of the public schools and those who pay the bills for their support. The real and lasting interests of these two groups are inseparable. At no previous time has the need of their appreciative co-operation been so acute. Such co-operation, to be permanently effective, must be securely based on mutual understanding of the educational-financial problems involved in the uninterrupted maintenance of a sound and economical system of public schools.

Moved by the desire to provide an agency dedicated disinterestedly to the furtherance of such mutual understanding, the New York State Economic Council has enlisted the co-operation of five educators of national standing who will serve as an Educational Advisory Committee. . . .

Opportunities for the service of this Educational Advisory Committee in the state of New York may be found wherever those in charge of schools and those on whom the schools are dependent for financial support are seeking efficiency and economy in education. Especially in circumstances in which the immediate concerns of administrators and financial supporters of education are in collision, or tending toward collision, this advisory committee should be of distinct service to education and to all interests involved.

Initiative for the procurement of the services of the Educational Advisory Committee must be taken or approved by educational officials; the committee has no disposition to intrude its services on anyone. The procedure of the committee, wherever it appears that it can be of service, will be especially adapted to each situation. In general, the methods of the typical school survey, in which members of the committee are widely experienced, will not be followed. Everywhere today the pressing need is for prompt and wise action on the part of responsible officials. The typical "survey" accumulation and burial in bulky volumes of innumerable factual data, beautifully charted and graphed, with a disconcerting array of recommendations, is not likely to meet this need. The committee proposes, rather, co-operative study of major educational-financial problems, taking account, of course, of all significant factual data bearing on these problems. In such study the committee proposes the active participation of responsible local officials and representatives of educational and financial interests. It is confidently believed that, working in co-operation with such officials and representatives, the Educational Advisory Committee, widely experienced but immediately disinterested, can be of genuine service.

Such co-operative study, including appraisal and constructive planning looking to prompt action, all with due consideration of the immediate and long-time interests of a sound and economical educational program, is a procedure of great promise. It promises not merely adequately considered, wise action in immediate situations, but also, and perhaps of even more importance, it promises wider and better understanding of the interrelated problems of public education and public finance, an understanding which is today largely and deplorably lacking.

Within necessary limitations, the advisory service, as here outlined, is avail-

able to responsible officials without cost. Such officials are invited to communicate with the chairman, Dr. Frank E. Spaulding, 608 Chrysler Building, New York City.

AN ANALYSIS OF CURRENT CRITICISM OF THE PUBLIC SCHOOLS

A recent brochure entitled *Evaluating the Public Schools*, which has been published by the Phi Delta Kappa Fraternity for the Joint Commission on the Emergency in Education, contains an analysis of the most frequent criticisms of the schools made both by laymen and by professional educators. The following statement is quoted from the brochure.

For the purpose of provoking discussion it will be of value to bring together in a systematic fashion some of the most frequent current criticisms of the public schools. These criticisms were obtained by scanning forty-four articles written between 1928-33 by laymen for magazines of national circulation; twenty articles prepared by educators for the same list of magazines; twelve recent professional books; and a list of criticisms of secondary education prepared by eighty-eight specialists. The general types of criticisms revealed from these four sources are summarized in [the accompanying] table.

No one should assume that the criticisms listed in the table are applicable in whole or in part to every local school system. Some criticisms are obviously based upon unpleasant personal experiences with individual schools or teachers; others are selfish in motive and destructive in intent. But neither teachers nor citizens can dismiss all of the statements without careful examination. Students of education realize that the schools are not perfect. Thoughtful citizens believe that public education can be improved.

The table does not reveal a situation in which laymen are attacking the schools while school people defend them. Neither laymen nor educators are agreed upon the proper aims and methods of public education. One group criticizes the schools because they have no contact with life, while another group deplores the overemphasis on practical things. One group believes that the discipline in the schools is too severe and too much inclined to suppress individuality, while another group feels that easy and agreeable teaching methods are making children selfish and incompetent. One critic feels that the modern curriculum is too varied and urges return to the simpler offerings which prevailed years ago. Another criticizes the schools because the curriculum is too narrow, formal, and traditional. On the whole, the evidence indicates a common concern for the improvement of the schools and diverse opinions among both educators and laymen as to the methods of bringing about improvement.

It is apparent, also, particularly to one who reads the articles in lay magazines with care, that criticisms are often based on inadequate contact with the American school system as a whole. This lack of a broad knowledge of the schools would indeed be inferred from the fact that different critics condemn the

schools for opposite things. Many of the articles begin by reciting the experience of the writer with the public schools. Frequently the writer's own child or the child of a neighbor is the starting point. Some of the articles apparently accept the reports of the children themselves at full value without any attempt to secure the point of view of teachers or school officers. That an individual parent or taxpayer should criticize the schools in the light of his own experience with them is entirely understandable. That such experience is an adequate basis for sweeping indictments of the public-school system as a whole can hardly be granted.

RECENT CRITICISMS OF THE SCHOOLS

GENERAL TYPE OF CRITICISM OF THE SCHOOLS	NUMBER OF ARTICLES IN GENERAL MAGAZINES			CRITI- CISMS IN 12 PROFES- SIONAL JOURNALS	RANK ORDER OF THE CRITI- CISMS OF 88 SPECIALISTS IN SECOND- ARY EDU- CATION
	44 Lay- men	20 Edu- cators	Total: 64 Articles		
1. "Soft" pedagogy; too many frills	12	7	19	1	1
2. Lack of contact with life	6	6	12	5	2
3. Overemphasis on vocational aims	6	1	7	2	...
4. Severe discipline, overwork of students	6	1	7	...	6
5. Neglect of character develop- ment	6	...	6	...	3
6. Mass-education methods	4	1	5	1	5
7. Suppression of individuality	3	2	5	2	...
8. Neglect of gifted children	3	...	3	...	...
9. Control by faddists	1	2	3	2	...
10. Neglect of traditional subjects	1	1	2	...	...
11. Neglect of civic and social effi- ciency	*	*	*	6	7
12. Improper emphasis on high- school athletics . . . . .	...	...	...	...	4

* Included with Item 2.

It is not the purpose of this publication to attempt to answer one by one in formal fashion the current criticisms of the aims and methods of education. Such a rebuttal must largely be developed on a local basis. Any one of these criticisms, as applied to a particular school system, may be wholly untrue, partly true, or entirely accurate. If it be untrue, the evidence should be marshaled by local school authorities to demonstrate its inaccuracy. If partly true, the excesses of the indictment can be pointed out and the steps that are being taken or planned to remedy the admitted shortcoming can be frankly listed. If, however, the criticism is valid, it will be necessary to accept it and to prepare at once to take the needed remedial measures.

NEW SOURCES OF REVENUE FOR SCHOOL SUPPORT

An examination of legislation enacted during the past five years reveals interesting and significant trends in the development of new types of taxes as sources of school revenue. The following summary statement of these trends is quoted from a recent number of the Research Bulletin of the National Education Association entitled *Five Years of State School Revenue Legislation, 1929-33*.

The general trends with respect to the number of states levying certain types of taxes, the number allocating all or part of the revenue for state school support, and the number in which these taxes contribute to state school support indirectly through appropriations from the general funds, are indicated in [the accompanying] table.

TAX PROVISIONS AFFECTING SCHOOL SUPPORT
IN THE YEARS 1928-33

	Number of States in Year					
	1928	1929	1930	1931	1932	1933
States levying:						
Personal-income taxes	11	14	14	18	20	24
Corporation-income taxes	12	16	16	20	21	26
General-sales taxes	4	5	6	7	6	17
Chain-store taxes	2	4	7	10	10	19
Tobacco-sales taxes	11	11	11	13	14	16
States allocating all or part to public education.						
Personal-income taxes	3	4	4	6	8	11
Corporation-income taxes	1	2	2	4	5	8
General-sales taxes	0	0	0	0	0	7
Chain-store taxes	0	1	1	2	3	9
Tobacco-sales taxes	5	3	3	5	5	6
States in which tax contributes to education indirectly through significant appropriations from the general funds:						
Personal-income taxes	7	8	8	9	9	10
Corporation-income taxes	9	11	11	12	12	14
General-sales taxes	3	4	5	6	5	9
Chain-store taxes	1	2	4	4	3	7
Tobacco-sales taxes	3	4	5	5	6	6

GENERAL TRENDS IN TAX ADOPTION

1. The number of states taxing personal incomes and the number taxing corporation incomes more than doubled between 1928 and 1933. In 1928 there were eleven states levying personal-income taxes and twelve levying corporation-income taxes. The number of states using these taxes has steadily risen, showing most

rapid increases in 1931 and 1933. In 1933 twenty-four states taxed personal incomes and twenty-six states taxed corporation incomes.

2. *Within a single year, 1933, the number of states levying general-sales taxes more than doubled.* In 1928 there were four states levying this tax; by 1932 there were six; and in 1933 the number increased to seventeen.

3. *The number of states having chain-store taxes increased from two in 1928 to nineteen in 1933.* In the latter year the number nearly doubled as compared with ten states in 1932.

4. *The number of states taxing sales of tobacco increased only slightly between 1928 and 1933.* There were eleven in 1928 as compared with sixteen in 1933.

REVENUES ALLOCATED TO EDUCATION

1. *There is a growing tendency to earmark personal- and corporation-income taxes, general-sales taxes, and chain-store taxes for the purpose of state school support.* While the number of states levying personal-income taxes more than doubled, the number allocating all or part of the revenues for the schools more than trebled. The number of states levying corporation-income taxes more than doubled, whereas the number earmarking the revenues for the schools increased eightfold. This has been a steadily increasing development throughout the 1928-33 period.

2. *Just as the greatest development in sales taxes took place in 1933, the only development in earmarking sales-tax revenues for schools also took place in this year.* Before 1933 none of the states levying this type of tax earmarked the revenues for the schools; in this year seven states adopted the practice.

3. *Likewise, the development of allocating chain-store tax revenue for schools took place almost entirely within 1933.* Neither of the two states levying chain-store taxes in 1928 earmarked the revenues for schools; only three of the [ten] states levying this type of tax in 1932 did so; but in 1933 nine of nineteen states had this provision.

INDIRECT CONTRIBUTIONS TO EDUCATION

There are two general ways by which tax revenues may become available for the schools. First, the statute levying the tax may direct that the funds raised from it be devoted to educational purposes. The second method is to place the revenues from a given tax in a general fund out of which appropriations for the support of education may be made. The last five [rows of the] table indicate the states in which certain taxes contribute indirectly to education through appropriations from the state general funds. There has been a general tendency to increase such allotments in all of the types of taxes covered by the table.

TAXES NOT AVAILABLE FOR EDUCATION

In some states the taxes included in the table make no significant contribution to the support of education because (1) revenues are placed in funds created for other purposes or (2) revenues are placed in general funds from which the states make little or no educational appropriations. In 1933 three of the twenty-

four states having personal-income taxes and four of the twenty-six states having corporation-income taxes virtually excluded public education from the proceeds. There is a tendency for schools to profit directly or indirectly from personal-income taxes relatively more often than from corporation-income taxes. Of all these taxes, however, the general-sales tax is used, directly or indirectly, for state school support relatively more often than any of the others. Of course, it may well be that taxes from which schools receive no financial support may still be of some assistance to the schools by releasing sources of school revenue from a burden of taxation for the support of other governmental functions.

NEW SOURCES OF SCHOOL REVENUE IN NEW JERSEY

The following statement is quoted from a recent issue of the *New Jersey Educational Review*.

Adoption of a sales tax for a period of three years, the total revenues less expenses of collection to be distributed among municipalities on an "equitable" basis for the purposes of meeting the costs of public education, was recommended to the 1934 legislature by Governor A. Harry Moore in his second annual message on January 9. The Governor also recommended that for the same three-year period the construction of state highways out of motor-vehicle fees and motor-fuel taxes be completely discontinued and that all revenues from these two sources, which would ordinarily go into construction work, be similarly apportioned among the municipalities, to be used solely for meeting appropriations for public-school purposes.

Both these measures were recommended by the Governor as part of a program to relieve real estate from "the staggering tax burden which now oppresses it." He said:

"These proposals are not, as I look at it, matters of choice, but of necessity. The people must have help to keep their homes, and a substantial part of that help must be real relief from burdensome taxation. Better roads, much as we may desire them, can wait until we are able to pay for their cost." The Governor was very definite that the taxation relief be real relief and "used only in substitution for existing taxes."

The Governor's recommendations have been indorsed by many groups, among them the Newark Teachers' Association.

THE MINNEAPOLIS EXPERIMENT IN THE REDUCTION OF FAILURE IN THE FIRST GRADE

It is common knowledge that the largest percentage of pupil failure occurs in the first grade and that, so far as this grade is concerned, inability to read is usually the determining factor in non-promotion. This high percentage of failure in the first grade is entirely unjustifiable because in most instances it represents a failure,

not of the pupil, but of the school. Recognizing this fact, the curriculum department of the Minneapolis public schools has undertaken an investigation of pupil failure in the first grade with a view to determining the effect of certain factors on success in learning to read and for the purpose of securing information to be used in working out a reorganization of the curriculum of the primary grades in such a way as to reduce failure.

The following conclusions are drawn from the results of the investigation, as reported in a bulletin entitled "An Experimental Study of Pupil Failures in the First Grade," by Prudence Cutright and Walter A. Anderson: (1) A large number of the failing pupils should not have started reading when they entered the first grade because their mental ages were so low as to indicate slight possibility of success. The curriculum should be so modified as to give such pupils educational activities other than reading until such time as they have reached a satisfactory mental age. (2) Boys were more in need of special adjustment than girls. (3) Pupils in the failure group had less satisfactory home conditions than those in the passing group. (4) Health conditions in the failure group were somewhat below average, especially in general development, nutrition, nose and throat conditions, and health habits in general. (5) Pupils in the failure group had less than average ability to distinguish differences in sounds of similar words. (6) The failure group had more information regarding social and household affairs than the successful group, but less in nature-study and literature.

The following plan of organization is proposed for the elimination of needless failures in the primary grades.

Approach to the problem of reducing failure.—The fact that the percentage of failure in Minneapolis is steadily decreasing is due, to a considerable extent, to the administration's emphasis on the desirability of eliminating needless failure. Elimination of failure by administrative edict is never an entirely happy nor lasting solution of the problem. Such a method is usually unpopular with conscientious teachers because they feel that lowering the percentage of failure by such a method is somewhat superficial; that is, all too often no true change takes place; neither the child, nor the curriculum, nor the quality of the child's work changes under such a plan.

As has been pointed out, the high percentage of failure of promotion in the first grade is due undoubtedly to the contradictory nature of the criteria on which children are admitted to the first grade and that on which they achieve

promotion from the first grade to the second grade. To be more explicit, children are quite generally admitted to the first grade on the basis of their chronological age; however, their promotion from first grade to second grade depends on the development of skill in reading. Success in developing this skill is closely related to mental age. Failure to achieve promotion is quite the natural outcome of such a situation, in which children are admitted on one basis and promoted on quite a different one.

There are two ways of correcting this situation, which is laden with failure. One is to admit children to the first grade on the basis of their readiness to learn to read. Probably the child's mental age is the best single measure of such readiness. From six years to six years and one-half is the mental-age span which is usually designated as the appropriate age for beginning instruction in reading.¹ The other remedy would be to admit to first grade all pupils who are chronologically six and then to adjust the curriculum of the first grade and succeeding grades to meet the varying needs, abilities, and interests which are presented by the group. Since it is administratively difficult to refuse entrance to the first grade until children have reached the mental age of six years to six and one-half years, the second solution, that of adjusting the curriculum, seems the more feasible.

Modern education now recognizes the desirability of considering more than growth in academic skills in gauging a child's educational progress. Therefore, in adjusting the curriculum to meet the needs of these children, child growth rather than skill in reading should be considered basic. If the activities of the kindergarten and first grade are well selected and well planned, it is undoubtedly true that each and every child will "grow" in some respect. The problem of adjusting the curriculum involves a number of considerations. First, we must define what we mean by child growth, its various aspects, and its observable features. After this has been done, it will be then necessary to select those activities which will stimulate the greatest growth in as many aspects of child development as possible. The teacher must play an important part in working out both the definition of child growth and in developing the curriculum.

Purposes underlying the organization of primary divisions.—One of the first steps in adjusting the curriculum to meet the needs of first-grade children was to consider the needs of all children of the primary-age level irrespective of school grade. It was decided to organize the kindergarten, Grades I, II, and III into a promotional unit in which the curriculum would be so adjusted that practically every child would make continuous progress throughout these primary years. Otto's article² furnished considerable help in developing the administrative features of the plan.

¹ Mabel Vogel Morphett and Carleton Washburne, "When Should Children Begin To Read?" *Elementary School Journal*, XXXI (March, 1931), 496-503.

² Henry J. Otto, "Implications for Administration and Teaching Growing Out of Pupil Failures in First Grade," *Elementary School Journal*, XXXIII (September, 1932), 25-34.

The major purposes of the primary division were outlined as follows: (1) to substitute the various aspects of "child growth" for the single standard "skill in reading" as a basis of promotion; (2) to substitute individual standards of "child growth" for mass or group standards in academic achievement; (3) to provide the individual child a longer uninterrupted-by-failure period for adjusting to the school situation.

Reorganization steps.—A description of some of the steps which have been taken in accomplishing these purposes may serve to clarify the direction of the reorganization. Before these steps are presented, it should be stated that in all that has been done an attempt has been made to *evolve* the reorganization from the thinking of the group and not to superimpose a plan. For this reason progress has been real but slow. In all probability the curriculum in the primary grades in the nine schools having primary divisions is not at the present writing radically different from that to be found in the primary grades of the eighty or more other elementary schools. Now that something like a basic understanding has been developed, progress in reorganization will be more rapid. The steps which have been taken are as follows:

Teachers' meetings and conferences have been held to discuss the meaning of "child growth," curricular activities which will contribute to it, and observable school evidence of child development. A recognized authority in child welfare and in child psychology has consented to act as consultant in the work of defining child growth and in outlining observation techniques. Teachers' meetings, conferences, and committee work on these matters are still in progress.

One of the most difficult things to accomplish in curricular adjustments is that of securing a changed attitude on the part of the teacher toward the time for beginning reading instruction. Each first-grade teacher is supplied with information, reading-readiness scores, or with intelligence-test results to acquaint her with those children who show little or no readiness to begin reading. First-grade teachers have long considered it their particular duty to teach every first-grade child to read, and it is extremely difficult for some of these teachers to accept a curriculum in which reading is taught only to those children who have a reasonable chance of success. As teacher-training activities are continued and as the curriculum becomes better adjusted, this difficulty will undoubtedly disappear. At the present time it is generally true that the individual child is initiated into reading when he is ready to learn to read. This means that some children are not taught to read until their third year in school, or until second grade.

When pupils are once introduced to the reading process, the utmost attention is given to maintaining interest, to insuring success, and to establishing desirable habits. Since there is no reliable evidence that any one method is superior to others in teaching reading, teachers are asked to follow the advice of Lawrence¹ in selecting for a particular child what seems to be the advantageous features of

¹ Arta Frances Lawrence, "A Study of First-Grade Reading Vocabulary" Unpublished Master's thesis, Stanford University

several methods. Curriculum activities for pre-reading groups whether they are in the first year (kindergarten) or in the second year (first grade) are related to the children's needs and interests. A report by Waters¹ in kindergarten activities furnished suggestions for one of the techniques used in discovering children's needs and interests. . . .

In selecting curricular activities several tendencies have been encouraged: first, to disregard subject-matter boundaries, second, to make greater use of community contacts in substituting direct experiences for vicarious ones; and, third, to include in the curriculum many activities that will bring the children of different years or grades together irrespective of grade level.

Activities which provide direct experiences with civic and social affairs may aid in establishing broader and deeper conceptual background and are therefore particularly desirable.

A number of changes in traditional practices have been suggested and put into practice. Number work or arithmetic has become informal. It is highly probable that systematic instruction in arithmetic will be postponed for the majority of children until Grade III B. . . .

The children in the primary divisions are initiated into handwriting through script print rather than through the cursive type of writing. The transition to cursive writing will not be made by any child until he has gained a fair control over the reading process. There seems to be some evidence that the exclusive use of the print form of writing in the primary grades may aid in reading.²

MEDICAL CARE IN THE TEACHER'S BUDGET

For a number of years the Julius Rosenwald Fund has been making a comprehensive investigation of the economic facts in medical service and of the possibilities of finding more effective ways of distributing the burden of medical care. The following statement, prepared by C. Rufus Rorem of the Rosenwald Fund, should be of special interest to teachers.

Teachers who have been forced to pay large or unpredicted costs of medical care will be interested to know that in various parts of the United States the procedure of "group-budgeting" has been adopted to assure hospital or medical services. Group-budgeting is a plan in which a number of persons make equal and regular payments into a common fund, which is used for the payment of necessary professional services to the subscribers.

The most widely known group-budgeting agreement for teachers is that in effect between the School Teachers' Association in Dallas, Texas, and the Baylor University Hospital. Dr. J. F. Kimball, vice-president of Baylor Univer-

¹ Doris Waters, "Pre-reading Experience," *Education*, LIV (January, 1934), 308-12.

² Arthur I. Gates and Helen Brown, "Experimental Comparisons of Print-Script and Cursive Writing," *Journal of Educational Research*, XX (June, 1929), 1-4.

sity, was at one time superintendent of schools in Dallas. Approximately three years ago he invited the membership of the association to subscribe for hospital services at the rate of six dollars a year, payable monthly. This fee was later raised to eight dollars a year, and at the present time approximately fifteen hundred school teachers are enrolled for services with the Baylor University Hospital. Several hundred are enrolled for similar benefits at the Methodist Hospital and the St. Paul's Hospital in the same city.

Group-budgeting plans have also been formed, either independently of physicians' services or in conjunction with them, in Dallas, Houston, New Orleans, Newark, Kansas City, Denver, Pueblo, Sacramento, and Portland, to mention only a few other cities in which these plans are most firmly established.

Where the medical-service benefits include only hospital care, the subscriber is usually protected against the need for hospitalization up to a maximum of twenty-one days in any one year, including bed, board, and floor nursing, as well as the use of the operating room, laboratory, routine medicine, and supplies. The fees usually range from six to twelve dollars a year depending on whether or not certain types of special services, such as X-rays, are included without extra charge.

There is an active movement on the part of several school and college faculties to arrange for the purchase of complete medical service on a group-budgeting basis, with plans to include members of the teachers' families.

Group-budgeting plans for hospital service are being officially encouraged by the American Hospital Association. Such plans do not include the services of a physician or a surgeon. Patients are hospitalized on the recommendation of their private physicians, and the patient may have free choice of doctor as well as free choice of hospital among the hospitals participating in the group-budgeting agreement. Group-budgeting by the teaching staff in tax-supported school systems has been officially encouraged by some boards of education. Such plans not only give security to the teacher and avoid the need of charity but also may relieve the taxpayer from financing such medical services in case of emergency.

Additional detailed information concerning the progress of group-budgeting for medical care may be secured from the Julius Rosenwald Fund, Chicago.

PUPIL FAILURE AS AN ADMINISTRATIVE DEVICE IN ELEMENTARY EDUCATION

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The history of the administration of elementary education in this country is replete with citations indicating the existence from Colonial days to the present of a practice known as "pupil failure" or the "repetition of grades." Much of the professional literature dealing with pupil failures in the elementary school is concerned with the tabulation of data showing the percentages of failure by grades and by subjects. Although much emphasis has been placed on methods for reducing the number of failures, the impression obtained from reading the literature on elementary-school administration is that the authors assume that non-promotion must prevail as an accepted practice (4, 20).¹ The general acceptance of school failure as an essential administrative device is further illustrated by the eagerness with which administrators seek a comparison of their own percentages of non-promotion with those of other cities and by the long-felt need for norms on acceleration, retardation, and the age-grade status of children.² Perhaps past attitudes regarding school failure are justifiable and should be maintained, but, before such a conclusion is reached, it would seem desirable to examine carefully various aspects of failure in order that the educational values of the practice may be ascertained.

CAUSES OF FAILURE

Presumably the causes of failure might be sought from at least two sources, namely, the statements of children as to why they think they failed and the statements of teachers and administrators. If children are asked why they were not promoted, the most common

¹ The numbers in parentheses refer to the numbered bibliography appearing at the end of this article.

² Partially in response to this need, Mort and Featherstone prepared their mimeographed bulletin on entrance and promotion practices (16).

response is "that they didn't work hard enough" or "that they were sick or absent." Perhaps it is begging the question to attempt to discover from non-promoted children the reasons why they failed, since in most instances the child is made to feel that he himself is responsible for the failure. Borgeson found that approximately 75 per cent of all the causes of failure given by pupils are those submitted on the assumption that the pupils themselves are primarily responsible (2). Frequently teachers and administrators, in an attempt to justify themselves and the position of the school, create an atmosphere in which the child and his parents are made to feel that the responsibility for the child's failure lies at their door. No doubt there are instances in which lack of application on the part of the child or unfavorable home conditions constitute legitimate cause for lack of progress in school, but a child's feeling that he "didn't work hard enough" may simply imply that the standards of the school were not adjusted to his ability or that insufficient motivation existed.

The causes of failure from the point of view of teachers and administrators are numerous. A report (6) from 493 superintendents of schools from all parts of the country and from all sizes of cities shows that reading and arithmetic are the subjects in which the largest number of failures occur. Of the sixteen reasons given for failure in reading, the three most frequently named (each reported by more than one hundred superintendents) are mental immaturity or inability, irregular attendance, and physical and social immaturity at time of entrance. Only 108 superintendents gave reasons for failure in arithmetic. Poor teaching techniques, lack of mental ability on the part of pupils, and lack of interest which results in lack of application are the three most frequently posited of the sixteen reasons named for failure in arithmetic.

Heck has classified the causes of failure into four categories (10). The first group is entitled "Failure due to the child" and includes such items as lack of mental ability and incurable physical defects. The second rubric, "Failure due to the teacher," embraces such factors as poor methods of teaching, inadequate motivation of pupils, and unjustifiably high standards. "Failure due to the school" covers such items as large classes, improper control of the social and

athletic activities of the school, and inadequate attendance service. In the fourth group were placed items relating to "Failure due to out-of-school environment," which includes factors within the neighborhood and the home and the attitude of parents.

A more recent study of the causes of failure as given by teachers is that by Adams (1). Forty-one elementary teachers were requested to submit to the superintendent's office written statements giving explanation and justification for the various percentages of failure in their classes for the first semester of 1929-30. For convenience, the data as analyzed by Adams have been assembled in Table I. The first group consists of reasons over which teachers have little control. Reasons of this sort were mentioned ninety-three times and constitute approximately one-third of the total reported. Even though teachers may have little control over the factors in Group I, the school is not entirely without control, especially with reference to such items as absence, certain physical handicaps, class size, and delayed examinations.

The second large group of reasons, constituting about 40 per cent of the total listed, relate to standards of work and represent factors over which teachers have a large measure of control. The third group relates to the interest of children and might be considered an extension of the second group of reasons, since the responsibility for the development of interest and proper attitudes on the part of children rests largely with the teachers. In the last analysis, it is evident that more than half the reports of these teachers relate to items which are within the control of teachers and which modern teaching would recognize and adjust so that the difficulties would not become the causes of failure. The majority of the remaining items are without the control of pupils. Thus, there seems to be little justification for inflicting school failure on pupils on the basis of most of the factors listed by these forty-one teachers (see also 11).

An investigation made by the staff of the Guidance Department of the Wilkes-Barre city schools (14) suggests that language difficulties, non-attendance, personality traits, methods of group instruction, the education of parents, the language spoken at home, the number of children in the family, and the financial security of the parents are items most frequently associated with children who fail

in school. In case a favorable combination of these factors is lacking, the child is doomed to failure. Doubtless the items named are not necessarily causes of failure but are conditions associated with chil-

TABLE I
REASONS GIVEN BY FORTY-ONE TEACHERS FOR FAILING PUPILS*

Reason Given by Teachers	Number of Teachers Mentioning	Frequency with Which Mentioned
I Reasons for failure over which teachers have little control:		
Absence	21	36
Excessive moving from school to school	7	22
Poor home conditions	6	11
Physical defects in sight and hearing	6	8
Nervous pupils	2	4
Too many pupils	3	3
Delayed examinations	2	3
Inadequate diets	2	2
Temperamental pupils	2	2
Poor health due to adenoids	1	1
Epileptic child	1	1
Total		93
II. Reasons for failure which relate to standards of work:		
Work too difficult for pupils	17	47
Mentally deficient in teachers' opinions	16	23
Work below teachers' subjective standards	16	19
Reading ability low in teachers' opinions	6	15
Work below teachers' objective standards	2	3
Reading ability below standardized norms	1	2
Failure an excuse for reclassification	1	1
Total		110
III Reasons for failure relating to the interest of children		
Pupils lack interest	14	27
Pupils are careless and indifferent	10	14
Total		41
Grand total		244

*Adapted from W. L. Adams (1).

dren who fail in school. Careful scrutiny will show that most of the items named are among those usually found to exist among children of low intelligence. In so far as this statement is correct, the several items named as causes of failure may be resolved into one, namely, low mentality.

A recent study by Hayes (9) tends to remove the foundation from other current beliefs regarding the causes of failure. Three hundred and six pupils in Grades II-VI, inclusive, who had repeated a grade some time during their school career were studied with reference to chronological age and mental age at time of entrance to Grade I, kindergarten attendance, physical defects, and transfer from other cities. The pupils who had failed were different from those who had not failed only with respect to mental age at the time of entrance.

THE VALUES OF FAILURE

The exact functions or values of failure in the elementary grades have never been ascertained. There is practically no literature on the value of failure. This lack may result from the fact that little thought has been given to the benefits accruing from non-promotion. In general, teachers and administrators have assumed, perhaps as a result of tradition, that non-promotion is an unavoidable evil in school administration and thus have spent their time justifying it, finding adequate excuses or reasons for failing pupils, and putting on drives to reduce the percentage of failure. Some educational workers believe firmly that failure should be reduced to a minimum, but they also believe that the threat of failure must be retained to assure maximum application on the part of pupils. Perhaps everyone who bears some responsibility for the failure recorded at the end of each school term believes that certain advantages will accrue for the pupil if he repeats the grade.

The values which are assumed to accrue from repeating a grade may be implied in part from the causes or reasons given for failing pupils because frequently these reasons for failure refer to conditions which it is hoped will be corrected by requiring the pupil to repeat the grade. Such items, for example, as "lack of interest," "laziness," and "carelessness" suggest that non-promotion is to give a lesson to the child as a method of making him come to time or to constitute a punishment for his past indifference as a means of bringing him to change his attitude. Such reasons as "mental immaturity," "inadequate academic abilities," or "work too difficult" suggest a hope that some kind of growth will occur during the succeeding term so that the curriculum prescribed for the grade will not be too difficult

for the child. It is not certain whether these anticipated benefits accrue for the child and, if so, whether they result in greater quantity from repetition of a grade than from exposure to the new work of the succeeding grade. It must be remembered that research in this field is conspicuously lacking and that the experience of teachers with occasional individual cases constitutes the major basis for these hopeful anticipations.

As one phase of an investigation of promotion policies, which has been reported elsewhere (18), the writer had occasion to interview

TABLE II
FUNCTIONS OR VALUES OF FAILURE IN ELEMENTARY SCHOOLS
AS VIEWED BY THIRTY-EIGHT PRINCIPALS

VALUE OF FAILURE	PRINCIPALS MENTIONING	
	Number	Per Cent
Assures mastery of subject matter.	13	34
Disciplines the lazy child	11	29
No values	11	29
Adjusts the immature child	9	24
Helps to relieve the losses due to absence . .	4	11
Gives dull child more time	3	8
Maintains the morale or standard	1	3

thirty-eight principals of elementary schools regarding their opinions of the values of failure. The opinions of the principals have been summarized in Table II. Twenty-nine per cent of the principals believe that no desirable values can result from failure. One person expressed the thought that failure in the elementary grades is a tragedy. Others named a variety of values, the actual existence of many of which is doubtful, whereas most of the other items cannot justify the practice of denying progress to many pupils.

So far the discussion has dealt with the opinions of teachers, administrators, and pupils. A review of related research may cast further light on the problem. In one investigation, conducted in Springfield and Decatur, Illinois, under the direction of H. T. McKinney, teachers were requested at the close of the first semester of 1918-19 to make out the usual list of promoted and non-promoted pupils (5). After these lists were in the hands of the superintendent,

the teachers were informed that all children were to be placed in the next higher grade. Pupils not originally recommended for promotion were to be given a probationary period of six weeks, and during that time every effort was to be made by the teachers to assist the probationary pupils to make good their promotions. As the responsibility for the success of the conditionally promoted pupils was placed on the *receiving* teachers, all teachers were encouraged to use a variety of remedial devices to aid the pupil to maintain his status in the new grade. At the end of the probationary period it was found that 75 per cent of the conditionally promoted pupils could be retained in the higher grade. At the close of the school year it was found that more than half of the pupils promoted on trial in February were recommended unconditionally for promotions in June. Although no objective methods were used to measure the educational growth of the children, the study suggests the feasibility and effectiveness of diagnostic and remedial measures as a substitute for failure. Apparently, remedial teaching produced the same benefits that it was hoped would be achieved through grade repetition. If appropriate diagnostic and remedial methods during one semester can reduce the failures by one-half, the reader may speculate on the effects of systematic attention to pupil difficulties during the entire period of elementary education.

A study (13) conducted in Long Beach, California, in 1927-28 gives more direct information with regard to the value of failure in terms of the educational growth of children. One week before the close of the first semester the names of all pupils who would be asked to repeat the grade were reported, together with their grade placement, chronological age, mental age, intelligence quotient, and sex. The 141 pupils thus reported were assigned to two equal groups on the basis of the data assembled. The members of one group were promoted on trial, while those of the other group were retained in the same grade another term. An index of the educational growth of the children was obtained by use of the Stanford Achievement Test in Grades IV-VI, inclusive, and the Haggerty Reading Test and the Cleveland Survey Test in Arithmetic in Grades II A to III A, inclusive. All tests were given at the beginning and at the end of the semester. The results of the study caused the authors to conclude

that the trial-promotion group showed greater progress during the succeeding term than did the repeating group and that schools apparently are not justified in requiring a child of normal ability to repeat, at least not in Grades IV-VI.

During the school year 1932-33 I. C. Nicholas conducted in Rockford, Illinois, a study similar to the Long Beach study. Approximately three hundred elementary-school pupils were involved. The investigation has not been completely summarized, but a preliminary analysis of the data suggests that the educational growth of children is enhanced more by exposure to the work of the next higher grade than by repetition of the same grade. Hence, two experimental studies in which objective measures were used indicate that school failure is not so valuable in promoting the educational growth of children, as measured by the Stanford Achievement Test, as is promotion to the new grade. If these results can be corroborated by further research, the time ought not be far distant when pupils and teachers may be freed from the harassing influences of failure.

THE RESULTS OF FAILURE

Indirect inference regarding the results of failure may be made from the preceding discussion. Repetition of a grade produces educational growth, at least for most children, and, in so far as it does produce growth, the hope of teachers that repeating the grade will reduce or eliminate immaturity and inadequacies in academic abilities is borne out. Data show, however, that development during the second term in a grade is less than the growth which occurs if children are exposed to the new work of a higher grade. Of course, a certain amount of mental and academic growth would take place during total non-attendance at school. Whether this advance would be equal to the growth resulting from the repetition of a grade is not known. Whether children who are failed because of "lack of interest," "indifference," "laziness," and the like really overcome these antischool attitudes is not known. Perhaps some children do, but doubtless for many of them these undesirable reactions to school work are enhanced by failure.

The literature on the results of pupil failure is limited. An analysis of the articles dealing with failure listed in the *Education Index*

for the past four years revealed not a single objective study which had attempted to ascertain the results of non-promotion in terms of the welfare of groups of children. Individual case studies have been reported, but such studies usually represent the exceptional cases which come to the attention of teachers and school psychologists. Indirect implications regarding the effects of failure may be obtained from certain psychological investigations, some of which will now be reviewed.

Praise and reproof are used extensively as means of motivation, and research has shown that praise is more effective than reproof (7). Inferior children particularly are more responsive to praise than to reproof. As a rule, it is the below-average children who constitute the failure group. To most children non-promotion represents a sort of reproof, whereas promotion to the next grade is greeted with joy and is looked on as a form of reward. Consequently, failure, as a means for encouraging better work, is applied to the children who respond least to reproof as an incentive and who might respond much more effectively to promotion. If the line of reasoning here followed is sound, it seems that teachers who fail pupils in order to secure greater interest and greater application, which might be expected to result in greater educational growth, are using the wrong device.

The results of failure may also be analyzed from the point of view of pupil maladjustment. The causes of mental maladjustment are probably not exactly the same in any two individuals, but there are certain factors which, when operating under similar conditions, produce about the same results. Among the partial list of causes of mental maladjustment given by Jordan, is a statement pointing out that "hostility, ridicule, or indifference, real or imagined, of adults or associates, leads to a feeling of *inferiority* and a thwarting of impulses and desires" (12: 407). Failure in school with the attendant ridicule of the other children is frequently a major cause in the creation of problem cases. There are perhaps few forces more potent in the life of a child than the opinions and the attitudes of his peers. Non-promotion, and especially several successive failures, places a child in a class group in which he may feel criticism from two sources, namely, the younger children in his present class and the children of his own age who are now several grades ahead of him. The social

maladjustment which results is frequently sufficient to cause the development of all kinds of defense mechanisms and undesirable or antisocial attitudes and mannerisms. Case studies in which school failure has been one of the major causes of maladjustment are sufficiently numerous to justify the acceptance of these comments as more than mere speculation (21).

Further evidence of the possible causative relation between undesirable behavior and retardation is suggested in a study made by Haggerty (8). An analysis of the incidence of undesirable behavior appearing in eight hundred elementary-school children showed definitely that a much larger amount of undesirable behavior was recorded for over-age and retarded pupils than for normal or under-age children. Such scientific evidence as that cited helps to cast further doubt on the desirability of school failure.

The analyses which have been made point to the unquestioned conclusion that "school failure," that is, the repetition of grades, should be abandoned as an administrative device. As the writer has pointed out in an earlier article (17), the responsibility for pupil failure falls on school administration, the term "school administration" being used in a general sense to mean all phases of organization and administration. Most of the reasons given by teachers and administrators for inflicting non-promotion on children are merely hypothetical breastworks behind which the educators hide while they are "passing the buck" to the unsuspecting children. Perhaps the one argument favoring the repetition of a grade by a child is that his mental and academic abilities are insufficiently developed to enable him to succeed with the more difficult work of the advanced grade. Obviously, that difficulty will be at least partially corrected if the child waits a term before entering the higher grade. The educational age of a child will increase during the time that he is repeating his grade, but research indicates that his educational growth will be greater if during that same interval of time he is exposed to the work of the new grade. In other words, the level of his educational development will be higher at the end of the term if he is promoted, in spite of the fact that the new work may be difficult for him. Since the function of the school is to promote the maximum educational development of children, there is little room for failure.

Mort has stated that among the many reasons given for non-promotion there are but two that can be justified, namely, the inability of a pupil to master the fundamentals of the succeeding grade and the losing of something highly valuable which cannot be secured in the higher grade (15). Mort further points out that careful analysis will indicate that non-promotion for either of these reasons should rarely occur. Both of these arguments or reasons have been adequately answered in the preceding paragraph. One might add that there is nothing particularly sacred about the allocation of a given unit of content to a specific grade and that the grade in which a certain unit is taught is not particularly significant. The mental development of the child is a more important consideration. If one really takes seriously the principle of adapting instruction to individual differences—a doctrine which professional educators have preached for more than two decades—the argument that “the work of the grade is too difficult for the child” appears ridiculous. If in all grades pupils are carefully studied, if adequate diagnoses are made, and if methods and materials are properly adapted to the abilities of pupils, it may be assumed that practically all children will achieve according to their ability. No one can legitimately expect greater achievement. The continuous use of diagnostic measures will enable the teacher to keep the child informed and encouraged about the progress he is making in various phases of school work. Researches by Ross, Book and Norvell, and others cited by Garrison and Garrison (7) have shown that knowledge of progress is a valuable motivating factor.

A PROPOSED PROMOTION PLAN

If non-promotion is eliminated except in cases in which a child has been unduly absent or ill or is decidedly immature chronologically, mentally, and socially, other phases of elementary-school organization and administration will be affected. Some of the problems which arise, particularly with reference to promotions, have been discussed by the writer elsewhere (19). It may be desirable to report here that portion of the previous article which dealt with a proposed promotion plan.

Several writers have suggested that children be classified on the basis of social maturity. If such a classification policy is to be car-

ried out consistently, it is essential that all children be promoted regularly and periodically in order that each child will be placed at all times in class groups which are relatively homogeneous from the point of view of social maturity. Except for unusual cases or unusual circumstances, this policy calls for promotion of 100 per cent throughout the elementary school. To make this program more feasible, the writer recommends that the term "school grade" be abandoned and that children be designated as spending their "first year" (kindergarten), "second year," or "seventh year" in the elementary school. After a child has spent seven years in the elementary school (the period now covered by the kindergarten and Grades I-VI) and has reached the age of twelve years or twelve years and six months, he will be transferred to the secondary school. In this way, pupil progress will be regular and continuous, and children will not be denied the broadening and enriching influences of the junior high school because of failure and retardation in the elementary school. It will be necessary for secondary schools to modify their programs to enable them to provide adequately for *all* children who have completed their sojourn in the elementary schools. The secondary unit will then achieve democratic secondary education to a larger degree than it now does.

The suggested promotion plan has been formulated in the firm belief that one of the major purposes of the elementary school is to provide a wholesome environment in which children may grow up. The aim at all times should be to provide class groups in which children of about the same age and maturity will participate extensively and in a wholesome fashion in activities through which it is hoped the aims of elementary education will be attained. No child should at any time be placed in a situation which will cause him to develop defense mechanisms or undesirable character and personality traits. This concept of promotion does not preclude ability grouping within each of the social groups.

Such data as have been assembled suggest that failure in school serves no useful values. In fact, the evidence indicates that the educational growth of children is less when they repeat grades than when they are promoted to new work. To argue that the threat of failure is essential to obtain maximum application on the part of children is an acknowledgment of inefficient teaching and inadequate

understanding of children. If children are properly motivated, they will work to capacity. Achievement below capacity usually suggests maladjustment of some sort, which should become a challenge to the teacher. If instruction is really adapted to individual differences in children, school failure is an anachronism. A promotion rate of 100 per cent is not likely to produce class groups in which the variations in academic achievements are larger than those found in classes as now organized. This contention is supported by Caswell's study (3). Hence, the problems and difficulties of teaching will not be increased materially. Standardized mental and achievement tests of all types will find extensive use as teaching aids, enabling the teacher to ascertain pupil abilities, pupil attainments, pupil difficulties, and pupil deficiencies in an effort to provide for each child that education which is best suited to his interests and abilities. School marks as now conceived may well be discarded, and ratings of "satisfactory" or "unsatisfactory," depending on whether a child is achieving according to his ability, be substituted. An unsatisfactory report will indicate maladjustment of some sort and will suggest the need for co-operation between the home and the school in an endeavor to secure again a well-adjusted individual. The satisfactory development of desirable personality and character traits, as well as academic knowledge and skills, will be the concern of the teacher. Under such a régime of elementary-school administration there will be little occasion for pupil failure and non-promotion.

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AN EXPERIMENT WITH A ONE-FIGURE DIVISOR IN SHORT AND LONG DIVISION. II

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The data considered in the first article¹ of this series were taken from the scores made on the entire test. In this article consideration will be given to the results of each part of the test. The reader should bear in mind that Part I of the test was composed of the easy division examples and Part II of the difficult examples.

TABLE IV

MEAN NUMBER OF ERRORS AND MEAN TIME IN FIFTEEN-SECOND INTERVALS
MADE BY SUBJECTS IN GRADES V-XV ON PART I (EASY EXAMPLES)
OF FORMS A AND B OF TEST IN DIVISION

GRADE	FORM A (SHORT-DIVISION FORM)		FORM B (LONG-DIVISION FORM)	
	Number of Errors	Time in Fifteen-Second Intervals	Number of Errors	Time in Fifteen-Second Intervals
V	8.80±0.470	33.00±1.070	9.36±0.571	48.04±1.230
VI.	6.82±0.426	25.52±0.855	7.57±0.498	34.63±1.020
VII	6.00±0.348	22.29±0.501	4.81±0.331	30.00±0.611
VIII	4.33±0.311	19.11±0.488	4.04±0.288	26.79±0.531
IX	4.00±0.208	15.60±0.280	2.50±0.162	21.78±0.288
X	3.28±0.312	15.22±0.283	2.22±0.152	21.45±0.306
XI	2.40±0.180	13.46±0.317	1.47±0.105	17.00±0.262
XII.	3.41±0.236	11.90±0.075	2.40±0.155	16.22±0.236
XIII	3.12±0.193	12.92±0.219	2.66±0.168	17.31±0.241
XIV.	2.57±0.189	13.57±0.258	1.66±0.130	16.82±0.253
XV.	2.96±0.233	12.02±0.260	1.40±0.121	17.36±0.233

Table IV shows that more errors were made on the short-division form than on the long-division form except in Grades V and VI. In all grades the short-division form had the advantage in time.

In order to determine whether the difference between the means

¹ Foster E. Grossnickle, "An Experiment with a One-Figure Divisor in Short and Long Division. I," *Elementary School Journal*, XXXIV (March, 1934), 496-506.

was significant, the writer applied the same technique to this difference as was used in the case of the scores on the entire test. The differences of the means and the probable errors of these differences are given in Table V. When the difference between two means is at least four times its probable error, it can be stated with practical certainty that the difference between the true means will be more

TABLE V
COMPARISON OF DIFFERENCES IN MEAN NUMBER OF ERRORS AND MEAN
SCORES ON TIME ON PART I (EASY EXAMPLES) OF FORMS A
AND B OF TEST IN DIVISION

GRADE	NUMBERS OF ERRORS			SCORES ON TIME		
	Difference in Means*	Probable Error of Difference	Ratio of Difference to Its Probable Error	Difference in Means*	Probable Error of Difference	Ratio of Difference to Its Probable Error
V.	-0 56	0 740	0 76†	-15 04	1.630	9 23
VI.	-0.75	0 655	1.15†	- 9 11	1 331	6.84
VII.	+1 19	0 480	2 48†	- 7.71	0 790	9 76
VIII.	+0 29	0 424	0 68†	- 7 68	0 721	10.65
IX.	+1.50	0 264	5 68	- 6 18	0 402	15 37
X.	+1.06	0.347	3 05†	- 6 23	0.417	14 94
XI.	+0 93	0.268	4 47	- 3 54	0 411	8.61
XII.	+1.01	0.282	3.58†	- 4 32	0 248	17.42
XIII.	+1 06	0 256	4.14	- 4.39	0 326	13 47
XIV.	+0 91	0.229	3 97†	- 3 25	0 362	8 98
XV.	+1 56	0 203	5 93	- 5 34	0 349	15.30

* The differences preceded by a plus sign favor the long-division form; those preceded by a minus sign, the short-division form.

† Not a significant difference.

than zero. The table shows that in the case of the easy division examples the differences in time in favor of the short-division form were significant. As for accuracy, the means favored the long-division form, although the differences were significant in only four cases. However, in all but two cases the trend was favorable to the long-division form. If a significant difference were interpreted to be one which is three instead of four times its probable error, then there would be significant differences in accuracy favorable to the long-division form in seven of the eleven grades. When the difference between two means is only three times its probable error, the chances are 97.9 out of 100 that the difference of the true means will be

greater than zero. Under such conditions the chances that the difference of the means will be zero or less are extremely limited.¹ In Grades V and VI there was no true difference in the number of errors for either form, but the chance difference was favorable to the short-division form. An explanation will be given later to show why these two groups were unusual in this respect.

Part II of the test was composed of the difficult division examples. In this part of the test each higher-decade subtraction bridged the

TABLE VI

MEAN NUMBER OF ERRORS AND MEAN TIME IN FIFTEEN-SECOND INTERVALS
MADE BY SUBJECTS IN GRADES V-XV ON PART II (DIFFICULT EX-
AMPLES) OF FORMS A AND B OF TEST IN DIVISION

GRADE	FORM A (SHORT-DIVISION FORM)		FORM B (LONG-DIVISION FORM)	
	Number of Errors	Time in Fifteen-Second Intervals	Number of Errors	Time in Fifteen-Second Intervals
V	13.10±0.670	57.64±1.540	8.68±0.583	67.98±1.800
VI	11.46±0.525	44.97±1.139	7.37±0.466	52.08±1.172
VII	10.36±0.497	40.11±0.791	4.59±0.288	43.12±0.830
VIII	7.53±0.465	36.00±0.816	3.90±0.295	37.96±0.772
IX	7.73±0.352	30.24±0.534	4.67±0.298	32.01±0.481
X	7.73±0.464	28.21±0.540	4.67±0.360	31.03±0.579
XI	5.43±0.287	24.00±0.388	2.68±0.326	24.29±0.351
XII	8.41±0.472	22.66±0.421	3.81±0.260	22.86±0.417
XIII	6.89±0.378	26.38±0.438	4.07±0.289	24.89±0.363
XIV	6.73±0.306	25.84±0.495	2.18±0.168	24.63±0.498
XV	6.88±0.344	25.41±0.515	2.54±0.195	25.64±0.460

decade. Table VI shows that the mean number of errors made on Form A was consistently larger than the number made on Form B. The mean scores on time for the two forms differed only slightly, although there was some advantage for the short-division form. The comparisons of the differences with their probable errors for Part II are given in Table VII. This table shows conclusively that the long-division form produced much greater accuracy than the short-division form. In every grade there was a very significant difference in accuracy which favored the long form. With regard to time, there was practically no difference between the two forms.

¹ Henry E. Garrett, *Statistics in Psychology and Education*, p. 135 New York: Longmans, Green & Co., 1926.

In Grades V and VI there were significant differences in time in favor of the short form, but in all the other grades the differences were chance differences. Since the scores on time on the two forms showed insignificant differences and since the long form yielded much greater accuracy, the conclusion is that the long-division form should be used for difficult division examples with one-figure divisors.

TABLE VII

COMPARISON OF DIFFERENCES IN MEAN NUMBER OF ERRORS AND MEAN SCORES ON TIME ON PART II (DIFFICULT EXAMPLES) OF FORMS A AND B OF TEST IN DIVISION

GRADE	NUMBER OF ERRORS			SCORES ON TIME		
	Difference in Means*	Probable Error of Difference	Ratio of Difference to Its Probable Error	Difference in Means*	Probable Error of Difference	Ratio of Difference to Its Probable Error
V..	+4.42	0.888	4.98	-10.34	2.370	4.36
VI..	+4.09	0.702	5.83	-7.11	1.634	4.35
VII..	+5.77	0.574	10.05	-3.01	1.147	2.62†
VIII..	+3.63	0.551	6.59	-1.96	1.123	1.75†
IX....	+3.06	0.461	6.64	-1.77	0.719	2.46†
X....	+3.06	0.587	5.21	-2.82	0.792	3.56†
XI....	+2.75	0.434	6.34	-0.29	0.523	0.55†
XII..	+4.60	0.539	8.53	-0.20	0.593	0.34†
XIII..	+2.82	0.476	5.92	+1.49	0.509	2.62†
XIV..	+4.55	0.349	13.04	+1.21	0.702	1.72†
XV....	+4.34	0.395	10.99	-0.23	0.691	0.33†

* The differences preceded by a plus sign favor the long division form; those preceded by a minus sign, the short-division form.

† Not a significant difference.

Table II showed that a significant difference in accuracy favorable to the long-division form was found in every grade except Grades V and VI. In these two grades the differences in accuracy favoring the long-division form were only chance differences. The data given for the long-division form in Tables IV and VI show that in Grades V and VI more errors were made on Part I than on Part II of the test. In these two grades also the number of errors made on Part I was greater when the long-division form was used than when the short-division form was used. Only in these two grades was greater accuracy achieved on the short form than on the

long form. These irregularities can be explained by the fact that the pupils in Grades V and VI were not adjusted to dividing in the long-division form by a one-figure divisor. It must be remembered that none of the subjects used in this study had ever been taught to divide in the long form by a one-digit divisor. Since the pupils in Grades V and VI could not readily transfer from their daily class usage of the short-division form to the long-division form required in this test, the accuracy of the scores on Form B was impaired. To the writer the lack of familiarity with the method is a very plausible explanation of the inconsistency in accuracy shown in these two grades. After practicing on Part I of the test, the pupils became familiar with the long-division procedure, and the scores made on Part II by these two grades were somewhat more consistent with the scores made by the other grades than were the scores on Part I. If in Grades V and VI a short practice period with the use of the long-division form for a one-figure divisor had been given before the test, there is every reason to suppose that the difference in accuracy favoring the long-division form would have been a significant difference.

Tables I to VII show that for accuracy the long-division form was superior both in the case of easy and difficult division facts. From the standpoint of time, the short-division form was superior to the long-division form except in difficult division examples. With difficult examples there were no significant differences in the time consumed for solving examples by the two forms except in Grades V and VI (the inconsistency of the scores in these two grades has been explained in the preceding paragraph).

A factor which may affect a pupil's score on the short-division form is his mental ability. Olander and Sharp¹ concluded that it may be advisable to teach the short-division form to the brighter pupils. It was not possible to get mental ratings for all the subjects who took the test in the present study, but mental ratings were obtained for the students from the normal school at Jersey City and for a number of the pupils in Grade VIII.

The students at the normal school were given the Thurstone and

¹ Herbert T. Olander and E. Preston Sharp, "Long Division versus Short Division," *Journal of Educational Research*, XXVI (September, 1932), 11.

Thurstone Psychological Examination for High-School Graduates and College Freshmen at the time of their entrance to school. The median score on this examination was 146.0 for the group using the short-division form and 148.0 for the group using the long-division form. According to the norms given for the 1930 edition of the Thurstone and Thurstone examination, a score of 146 is at the 55 percentile, and a score of 148 is at the 56 percentile.

In Grade VIII the Terman Group Test of Mental Ability, Form A, was used to secure mental ratings. The median intelligence quotient of the group that used the short-division form was 103.0;

TABLE VIII
MEAN SCORES ON DIVISION TEST MADE BY SUBJECTS IN NORMAL
SCHOOL AND GRADE VIII RANKED ACCORDING
TO SCORES ON MENTAL TESTS

RANK ON MENTAL TEST	FORM A (SHORT-DIVISION FORM)			FORM B (LONG-DIVISION FORM)		
	Num- ber of Cases	Number of Errors	Time in Fifteen- Second Intervals	Num- ber of Cases	Number of Errors	Time in Fifteen- Second Intervals
Normal school:						
Lower half . .	74	8 84 ± 0 408	40 87 ± 0 752	71	4 41 ± 0 377	42 91 ± 0 811
Upper half . . .	74	9 16 ± 0 510	35 31 ± 0 749	71	3 99 ± 0 362	39 73 ± 0 691
Grade VIII:						
Lower half . . .	37	12 16 ± 1 200	53 95 ± 1 786	33	6 95 ± 0 872	59 37 ± 1 770
Upper half . .	37	8 45 ± 0 830	43 65 ± 1 330	33	5 14 ± 0 580	57 35 ± 1 480

the median intelligence quotient of the long-division group was 100.0.

Table VIII gives the mean scores on the division test of the subjects whose scores on the mental tests placed them in the lower and the upper halves of their grades, and a comparison of the significance of these means is given in Table IX. These two tables show that there was no significant difference in the accuracy with which the subjects at the two levels of mental ability solved division examples with one-figure divisors by either form. On the short-division form the bright groups used less time than the lower groups. For the long-division form there were only chance differences in the time scores of the two groups of mental ability. Thus, these data give no justi-

fication whatever for a generalization that bright pupils should be taught the short-division form.

It is readily seen that the long form of division is superior to the short form with respect to accuracy. The next problem is the relation between accuracy and speed. If an individual has accuracy, does he usually have speed as well? Gates states: "Speed and accuracy of reacting or of learning generally go together in the sense

TABLE IX
COMPARISON OF DIFFERENCES IN MEAN SCORES ON DIVISION MADE BY
LOWER AND UPPER GROUPS WHEN RANKED ACCORD-
ING TO SCORES ON MENTAL TESTS

	FORM A (SHORT-DIVISION FORM)			FORM B (LONG-DIVISION FORM)		
	Difference in Means*	Probable Error of Difference	Ratio of Difference to Its Prob- able Error	Difference in Means*	Probable Error of Difference	Ratio of Difference to Its Prob- able Error
Normal school.						
Number of errors.	- 0.32	0.653	0.49†	+0.42	0.523	0.80†
Scores on time . .	+ 5.56	1.060	5.25	+3.18	1.065	2.99†
Grade VIII ¹						
Number of errors	+ 3.71	1.459	2.54†	+1.81	1.047	1.73†
Scores on time. . .	+10.30	2.227	4.63	+2.02	2.307	0.88†

* The differences preceded by a plus sign favor the upper group in mental ability; those preceded by a minus sign, the lower group.

† Not a significant difference.

that those who develop one readily usually develop the other readily."¹ The relation between these two traits in this investigation was determined by finding the correlation between them for both forms of the division test. The Pearson product-moment method was used to find the correlations between speed and accuracy. The results, given in Table X, show that in every grade there was some positive correlation between accuracy and speed in the case of both the short and the long forms of division. However, most of the correlations were small, and it is therefore difficult to generalize about the relation between the two traits under consideration. When the test was given, the examiners urged the subjects to work as rapidly as possi-

¹ Arthur I. Gates, *Psychology for Students of Education*, p. 283. New York. Macmillan Co., 1923.

ble but to be certain that the computations were accurate. Since accuracy is the more important of the two traits, it is doubtful whether speed should be stressed. Gates further states: "In arithmetic and in writing, accuracy or quality is likely to suffer if speed is overemphasized. When proper precautions are taken, however, the rate of performance can often be appreciably increased without sacrifice of quality or precision."¹ Therefore, the long-division form

TABLE X
CORRELATIONS BETWEEN SPEED AND ACCURACY ON FORMS A AND B
OF THE ENTIRE TEST IN DIVISION

GRADE	FORM A (SHORT-DIVISION FORM)		FORM B (LONG-DIVISION FORM)	
	Number of Cases	Correlation between Speed and Accuracy	Number of Cases	Correlation between Speed and Accuracy
V.....	111	.695 ± .033	100	.483 ± .052
VI.....	109	.434 ± .052	102	.480 ± .052
VII.....	144	.246 ± .052	136	.368 ± .050
VIII.....	104	.108 ± .064	96	.192 ± .063
IX.....	140	.300 ± .052	135	.380 ± .050
X.....	101	.230 ± .063	102	.400 ± .055
XI.....	107	.096 ± .064	107	.014 ± .065
XII.....	116	.492 ± .047	106	.402 ± .054
XIII.....	103	.470 ± .051	110	.479 ± .049
XIV.....	88	.160 ± .076	87	.335 ± .064
XV.....	82	.240 ± .070	79	.238 ± .071

for a one-figure divisor should be taught because it enables the pupil to achieve greater accuracy than is possible by the short-division form. Then as the technique of long division becomes well established, speed in the application of this technique can be stressed. In the light of the results from this experiment, the short-division form cannot be justified by any consideration.

SUMMARY

A test in division with a one-figure divisor was given to 2,365 pupils in Grades V-XV, inclusive, to determine whether the long-division form is superior to the short-division form in accuracy and speed. The test was divided into two parts, Part I consisting of easy division examples and Part II of difficult examples. Two different

¹ *Ibid*, p. 284.

forms of the test were administered. Form A, the short-division form, was given to 1,205 subjects; Form B, the long-division form, to 1,160 subjects. The number of errors and the time in fifteen-second intervals were recorded for each test score. The results were as follows:

1. In the case of both the easy and the difficult division examples, subjects using the long-division form divided much more accurately than did those who used the short-division form.
2. The subjects using the short-division form completed the entire test in less time than did those who used the long-division form. However, there was no significant difference in the time required to work the difficult division examples by the two different division notations.* In the case of easy division examples less time was consumed by the subjects who used the short-division form.
3. The farther the grade level of the subjects tested was removed from the grade in which short division was taught, the more pronounced was the difference in favor of the long-division form.
4. Intelligence, as measured by standard tests of mental ability, had no appreciable effect on the accuracy of the subjects. In the case of the short-division form, the group superior in mental ability solved the examples in less time than did the group inferior in mental ability. In the case of the long-division form there was no significant difference in either the speed or the accuracy of the upper and the lower halves of the group ranked according to mental ability.
5. In each of the grades sampled in this study there was some positive correlation between accuracy and speed. Most of the correlations were small, and consequently an appraisal of the relation between these two traits is difficult.

CONCLUSION

The results of this study point unerringly to the conclusion that the long-division form is superior to the short-division form for a one-figure divisor. It must be remembered that in this study "the dice were loaded" in favor of the short form since all the subjects tested had been taught to use the short form, and not the long form, of division for a one-digit divisor. Furthermore, the scores on the short form were not penalized because of the use of crutches. To

state that about half of the pupils who used Form A (short-division form) wrote in the carry-number would be to give a very conservative estimate of the number who used this crutch. Even under such conditions the long-division form gave more accurate results in all types of examples than the short-division form. Therefore, the writer recommends that only one form be taught—the long-division notation.

Competent authorities who favor teaching the short-division form as a short cut have been cited. The data in this study do not warrant such a procedure. A much more practical plan is to teach the long-division form for all purposes and then depend on proficiency in the application of the technique to reduce the time necessary for its operation. In conclusion, a one-rule procedure should be adopted in instruction in division examples with one-figure divisors in which there is carrying. That procedure is the long-division form.

A STUDY OF CERTAIN TYPES OF WORK MATERIALS IN FIRST-GRADE READING

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THE PROBLEM AND THE PROCEDURE

The purpose of the experiment here described was to compare the merits of two of the outstanding types of commercial work materials for first-grade reading with respect to (1) effectiveness in increasing the pupil's reading vocabulary and (2) convenience in administration by the teacher.

The two types of work materials compared may be designated as "workbook" material and "picture-dictionary" material. The workbook material is the conventional type of seat work and consists in a book of pictures with accompanying directions for carrying out various activities, such as coloring the pictures or pasting labels beneath them. The picture-dictionary material consists in a large card containing a number of pictures with word or phrase labels printed below them. The pupil has corresponding pasteboard labels which he matches with the pictures.

In the workbook material the pupil must be shown the connection between the printed directions and the picture which he is to color or the exercise which he is to work out. The pupil must therefore be familiarized with the new vocabulary embodied in these directions before he attempts to carry on any of the activities. After he has become acquainted with the new words, it is necessary to have him read the directions orally and thoroughly discuss them. Obviously, a few pupils in the group can dispense with this procedure.

The picture-dictionary material, on the other hand, utilizes the pictures only to give the words meaning and to aid the child in learning the words. The material used is blocked out into units of twelve pictures with accompanying words and phrases. When the pupil has matched his cardboard slips containing words and phrases with the corresponding pictures and has studied them until he feels

that he knows the words, the teacher checks his card to see if the matching has been done properly. If the matching has been done correctly, the teacher checks the pupil's knowledge of the words by placing the unit card aside and using the pasteboard slips as flash cards. If the pupil recognizes all the words at sight, he is given credit for the unit; if he misses certain words, he again matches the word slips with the pictures and studies them until he can recognize them at sight. The process is the same for each unit of the material.

A class of pupils in Grade I A, just promoted from the first semester of work, was selected for the experiment. Practically all the children were handicapped by meager social backgrounds and language difficulties. Since it was proposed to use the control technique, the class was divided into two groups, each numbering eighteen pupils, as nearly equal in ability as possible. A single class was used in order that all the work of both groups would be under the direction of the same teacher. This plan eliminated perhaps the greatest disturbing factor in a controlled experiment of this type, namely, inequality in the abilities of the teachers of the groups. The time period scheduled for the experiment was twelve weeks. The experiment was started a month after the opening of the semester to allow time for the formation of teacher judgment and the administration of preliminary tests.

Four factors were utilized in grouping the pupils: (1) mental age, (2) intelligence quotient, (3) chronological age, and (4) teacher judgment. The mental ages were secured from a single administration of the advanced Detroit First-Grade Intelligence Test given at the time of grouping. The intelligence quotients were obtained by combining the intelligence quotients of this administration with those derived from an administration of the Detroit First-Grade Intelligence Test in the previous semester. The median mental ages at the time of grouping were 7.4 for the workbook group and 7.9 for the picture-dictionary group. The median composite intelligence quotients were 99.5 for the workbook group and 99.0 for the picture-dictionary group. It will be noted that there is a difference of five months in the median mental ages. Such factors as social maturity, habits of work, and home advantages were considered to compensate for this difference. The chronological ages ranged from 6.4 to 10.6

in the workbook group and from 6.6 to 10.0 in the picture-dictionary group.

Two achievement tests were administered to determine the stage of progress of the pupils in the two groups at the beginning of the experiment. The first was the Pressey First Grade Attainment Scale, Form A; the second, a word-recognition test, which all pupils promoted to Grade II in the Gladstone School must pass, consisting of 152 words basic to the work of Grade I.¹ It was decided to place the main emphasis on word recognition because this aspect of reading lends itself to preciseness and convenience in testing.

The programs of study for each group were kept as much alike as possible. Each group was allotted a daily period of thirty minutes in which to use the work materials. These periods of work were supervised by the teacher, who observed great care in giving the same amount of time and attention to each group. For example, if an interruption occurred during the period of one group, the amount of time lost was noted and a proper adjustment was made. The same basic reader was used by the two groups and was in no way related to either workbook or picture-dictionary materials. Likewise, the same supplementary-reading materials were used by the groups, and the periods for their use were equalized.

THE RESULTS

Tests were again administered at the close of the twelve-week period of experimentation. An informal vocabulary test was constructed from one hundred words common to both types of materials. All the words were contained in the Gates list² and were among those covered by both groups of pupils during the period of the experiment. This test was designed to determine how effectively each type of material presented new words to the pupil. The other tests utilized were the Pressey First Grade Attainment Scale, Form B, the vocabulary section of the Pressey Second Grade Attainment Scale, and the same word-recognition test which was administered at the beginning of the experiment. The results of the tests given both at the beginning and at the close of the experimental period

¹ Paul R. Pierce, "Administrative Aspects of Testing in First-Grade Reading," *Elementary School Journal*, XXXIII (October, 1932), 112-21.

² Arthur I. Gates, *A Reading Vocabulary for the Primary Grades*. New York. Teachers College, Columbia University, 1926.

and the gains made by each group are shown in Table I. The scores on the Pressey tests show practically no difference in the results of the two groups. In the word-recognition test the workbook group made a median gain of 7.5 words more than the picture-dictionary group. However, in the second administration of both the Pressey First Grade Attainment Scale and the word-recognition test, many pupils in each group made perfect scores; consequently, the potential gains that each group might have made were not deter-

TABLE I
MEDIAN SCORES MADE ON READING TESTS AT BEGINNING AND AT CLOSE OF
EXPERIMENT BY TWO GROUPS OF PUPILS USING TWO
TYPES OF WORK MATERIALS

NAME OF TEST	MEDIAN SCORE OF WORKBOOK GROUP			MEDIAN SCORE OF PIC- TURE-DICTIONARY GROUP		
	At Begin- ning	At Close	Gain	At Begin- ning	At Close	Gain
Pressey First Grade Attainment Scale	22.5	54.0	31.5	26.9	57.0	30.1
Pressey Second Grade Attainment Scale	...	18.5	...	...	18.3	...
First-grade word-recognition test. . . .	75.0	149.5	74.5	83.0	150.0	67.0
100 words based on materials . . . .	.	75.5	...	...	85.0	...

mined. In the test based on one hundred words common to both types of material, the pupils in the picture-dictionary group attained a median score of 9.5 more words than the workbook group. The Pressey and the word-recognition tests do not indicate any particular differences in the effectiveness of the two types of materials, but the results of the test based on words common to the materials show that in recognition of words at sight the picture-dictionary material is at least equal to, and possibly has a certain degree of superiority over, the workbook material.

The administration of a controlled experiment in a large public school presents many problems, not the least of which is irregular attendance of the pupils participating. Whenever a pupil is absent, not only his progress and that of the group is affected, but the balance essential to an effective experimental organization is disturbed. In this experiment the median number of days of attendance was 56.3 for the workbook group and 55.6 for the picture-dictionary

group. The median number of words covered was 360 for the workbook group and 238 for the picture-dictionary group. The difference of less than a day in the median attendance of the two groups during the sixty days of the experiment shows that the absences in one group tended approximately to offset those in the other. The number of words covered by the workbook group marks a point in the materials reached by practically all the members of the group. This finding supports a statement which will be made in the discussion of the clinical data, namely, that the directions and care necessary to the effective administration of these materials favor group progress rather than individual progress. The median number of words covered by the picture-dictionary group is much smaller, but the wide range (from 96 to 650) indicates a strong tendency toward individual progress of the pupils. It should be noted, however, that the phrase "words covered" does not have the same meaning for the two types of materials. In the workbook material the pupils simply covered the words as in ordinary reading procedure, while in the picture-dictionary material the pupils' mastery of each word was tested.

CLINICAL DATA

In order to secure data regarding the administration of each type of work material, the teacher systematically took notes on what appeared to be important factors in assignment of work, meeting individual needs, problems of class routine, and the like. A brief résumé of the factors thus noted is herewith presented.

The assignment of workbook materials to first-grade pupils is a more complex problem than is frequently supposed for the reason that many of the directions preceding an activity are too difficult for the child to understand. The directions either contain many unfamiliar words or are couched in words outside the child's experience. Some directions employ as many as fifteen words, half of which may be introduced for the first time. This factor makes careful assignment of each exercise very essential. It also has the disadvantage of making individual progress for each child difficult. This disadvantage is especially apparent when a child returns to class after an absence. In the workbook material, if there is no way of illustrating a word, it is difficult and frequently impossible for the child to work out the word for himself. To illustrate, if the child

encounters under the picture of a cat the sentence, "This is my cat," and has not previously mastered "this" and "my," there is nothing in the picture that will give him a clue to these words. The workbook requires careful and constant supervision. The child works out his activities with crayons—crayons being much cleaner than colored chalk—and it is impossible for him to erase. If he interprets the directions incorrectly, the incorrect work must stand and mar his book. Consequently, the teacher must make sure that the pupil understands the directions before he attempts to execute them on paper. However, the workbook material makes the pupil "reading conscious." He soon learns that, before he can use his scissors or crayon, as he delights to do, he must read.

The picture-dictionary units are usually introduced by a story about each picture. This story is necessarily both simple and brief. In the case of the word "close," for example, the picture shows a child closing a window. The story about this word may be no more than the following: "A big storm is blowing up, and mother has asked Mary to close the window."

A problem connected with the assignment of the picture-dictionary material in the case of first-grade children is centered in the fact that few children are working on the same unit at a given time, and extra attention must be spent in bringing the pupil to understand how to take up his work at the point where he left it at the close of the preceding period. For example, if he has received credit for completing Unit I at the end of the period on Monday, then he must be trained to proceed to Unit II on Tuesday without the assistance of the teacher. Once the pupil has secured the correct material, it is possible for him to start work independently. He can set his own pace, and he can resume his work after an absence without the necessity of special instruction. It should by no means be construed, however, that this material can be used as "busy work." The class is assuredly busy, but with the difference that they are receiving effective aid in their reading. This type of material requires close supervision and careful checking by the teacher. It is often possible to train two or three pupils to do the checking,¹ but much of the success of this plan depends on the maturity of the pupils.

¹ James E. McDade, "Questions on Individual Learning," *Chicago Schools Journal*, XI (April, 1929), 281-83

Every picture aids the pupil in getting meanings from words. He is made aware that words are not merely puzzling groupings of letters but keys that unlock symbols having meanings and associations for him. The picture-dictionary work is particularly well adapted to the child with meager preschool background. That the pictures occasionally are not adequate for the illustration of the words is evident, and any teacher who has attempted to construct materials of this kind knows how difficult it often is to find the picture that best fits a word. It is much simpler to illustrate "girl" or "boy" than to illustrate the word "where" or "there," but, however far-fetched the illustration, the presence of the picture helps the child to master the word. The fact that at any time during the period some pupil is waiting to have his work checked, in order to proceed with the next unit, presents a problem in routine, but pupil assistants should aid in solving it.

Although the workbook material has an appeal to the child much like that of a game and he enjoys the activity, the pupil working with the picture-dictionary units also appears to get a certain satisfaction in being able to work things out for himself. Self-reliance and habits of perseverance are qualities brought out through this self-help method.

SUMMARY COMMENTS

The foregoing data, while possessing definite limitations, warrant certain conclusions regarding the uses and the effectiveness of work materials in first-grade reading. The directions to pupils in workbook material necessitate considerable guidance on the part of the teacher, especially among foreign-language-speaking children, with the result that group instruction and lock-step progress are likely to prevail. However, the reading of directions acquaints the pupils with an important purpose of reading, and the following of directions furnishes them with a variety of activities. The picture-dictionary material requires less direction by the teacher and results in individual progress of the pupils. It provides effectively for the recognition of words and phrases. In addition, the use of picture-dictionary material provides training in habits of dependability and self-reliance.

THE PLACE OF "CRUTCHES" IN INSTRUCTION

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INTRODUCTION

In a recently published article¹ an account is given of the results which followed direct instruction in the use of a "crutch" in fifth-grade arithmetic. The major purpose of the investigation was to describe and catalogue children's difficulties in adding proper fractions. Group tests were administered and individual interviews were held to secure data on the processes employed by 245 fifth-grade children enrolled in seven schools. Tabulation of the data some weeks after the testing revealed use of the crutch in two of the schools. The circumstances of its use and of its discovery led to a special inquiry into the effects of the crutch on efficiency and on subsequent development in the ability to add proper fractions. In the conditions under which the inquiry was prosecuted, it was impracticable to determine whether the crutch had made any positive contributions to learning, and it was therefore necessary to adopt some other means of evaluating the crutch as an instructional device. A point of attack was found in certain objections which are frequently raised by those who oppose crutches in teaching. The data were accordingly treated with a view to testing the validity of these objections with regard to the particular device in question.

In the first part of this article the practice of deriving instructional procedures, such as the crutch here studied, from opinion and deduction from psychological principles is critically examined. In the second part summaries of the data secured in the investigation will be examined to determine the effects of this crutch on learning. In the third part consideration will be given to certain suggestions in the findings for the psychology of learning and of teaching in so far as crutches are concerned.

¹ William A. Brownell, "An Evaluation of an Arithmetic 'Crutch,'" *Journal of Experimental Education*, II (September, 1933), 5-34.

NEED FOR A DIRECT ATTACK ON EDUCATIONAL METHOD

Futility of decisions based on opinion.—Research data dealing with the place of crutches in instruction are exceedingly rare. This is, however, far from saying that the problem has received no attention. It is, rather, to say that the problem has been left almost entirely to the arguments of theorists, who in the last few years have expressed themselves in increasing numbers as opposed to the use of these devices. Nevertheless, there still remain some who insist that crutches perform a useful function in facilitating learning.

The objections of those who oppose crutches may be summarized as follows: (1) Many times crutches confuse rather than clarify the processes to be learned. (2) They are frequently as difficult to learn as are the processes which they are assumed to simplify, often more difficult. (3) Even if they possess temporary value, they tend to outlive their usefulness and to become fixed as uneconomical habits. (4) Consequently, they block learning by encouraging the learner to remain at a lower level of efficiency and maturity than he otherwise might attain.

It is only fair to assume that not even the staunchest exponent of crutches would favor teaching devices which produce in children the undesirable effects listed. Certainly, the advocate of crutches is as sincerely interested as is the opponent of crutches in furthering learning. These undesirable effects are not produced, however, by the teaching procedures described as crutches by those who favor the use of such devices. In the opinion of these persons devices which they call crutches (1) contribute meaning and intelligibility to the processes which they are designed to explain, (2) are readily understood by children, (3) are abandoned as soon as they are no longer needed, and (4) are conducive to the most economical growth and the soundest maturity.

Viewed in this manner, the purely theoretical discussion of the value of crutches is seen to be utterly futile. The argument becomes a matter of definition and identification. If Instructional Device A results in seriously impeding learning, it is called a crutch by those who attack crutches and is called something else by those who defend crutches. If Instructional Device B results in promoting healthful learning, it is called a crutch by the supporters of crutches and is called something else by the other side in the debate.

In the last analysis, therefore, to describe a teaching procedure as a crutch is to describe it not at all. Identification on purely a priori grounds is open to serious error. The supporter of crutches optimistically imagines in the procedure virtues which may be non-existent to children. The opponent of crutches is likely to argue that, since he does not use the procedure himself, it can be of little service to the learner, and hence he is likely to see in it all the evils he subsumes under the category of crutches. It follows, too, that any general direction to teach many crutches or to teach none at all is at best meaningless and at worst wholly misleading. The immediate question still remains to be answered for each proposed procedure, "Is it a crutch?" Whether to employ the procedure or not to employ it becomes a question of labeling and naming it when there is "a much more fundamental issue involved, namely, whether the changes it effects in children are helpful or harmful. This issue, it is clear, is not to be settled through the agency of further opinionated discussion; settlement is to be expected only from impartial research.

* *Dangers in deductions from psychological principles.*—Participants in the dispute concerning the value of crutches in general or of some device in particular often base their arguments on psychological principles. There is grave danger in this practice. In the first place, such deductions are likely to constitute instances of "begging the question." The logical error lies in assuming universality in a principle cited in such a way that it applies to the special case in question. Once this assumption is made, naturally the inference follows from the principle. An example of this kind of circular reasoning is to be found in the objection to crutches which is presumed to be inherent in the principle, "Other things being equal, form no habits which must later be broken." This principle is accepted as having universal application; the crutch is then identified as one of the habits "which must later be broken;" and, finally, the weight and authority of the principle is invoked against the crutch as being uneconomical and injurious.

Such principles as that just mentioned cannot safely, in the pres-

¹ For example, " 'Crutches' of all kinds should be avoided [in arithmetic instruction], as they become distinct liabilities as soon as the initial stages of the learning have been passed"—T. G. Foran, "A Summary of Some Principles of Teaching Arithmetic," *Catholic Educational Review*, XXVIII (May, 1930), 260.

ent state of experimentation, be taken as universal. As a matter of fact, a principle is not absolute until there have been accumulated a great many instances of the phenomena covered by the principle, including the particular group of phenomena which at a given time are receiving attention. In other words, a principle can validly be brought to bear on data only when those data have already contributed to establish the principle. The movement seems to be from data to principle and back to data. When the direction is altered, as is frequently done in deducing educational procedures, and when, as the first step, the principle is applied directly to data, there is the danger that essential conditions may have been violated. A far wiser course of action, it would seem, is to study immediately and at first hand the problems that arise in connection with educational methods, as has been done in the study of the fraction crutch in the investigation referred to in the opening paragraph.

There is a second reason for questioning the soundness of inferences regarding educational procedures made from psychological principles. The educational situation is always a complex of a great number of factors, part of which are likely to escape notice. There is always the possibility that the educational theorist, in centering his attention on one aspect of this complex and in citing the psychological principle which seems to apply to it, may fail to consider other factors with their governing principles, some of which may actually negate the operation of the theorist's principle. In this connection, the writer is reminded of the psychologist who through his study of football had become convinced of the importance of quick reaction time in the line-men. On the psychologist's recommendation the football coach selected one team from his squad purely in terms of the speed with which the men responded to signals. Under the conditions of a practice game it became clear that reaction time is but one of a number of important factors in football-players, among the others being such matters as weight, interest in the game, and knowledge of special tricks, and that superiority in some of these factors was often sufficient to offset slowness in reaction time. In a similar manner, in education the attempt to apply general psychological principles, even sound principles, may be exceedingly difficult, confusing, and really harmful because of the possibility of neglecting or of unduly emphasizing essential elements in the situation.

Inference from psychological principles constitutes a safer basis than does opinionated discussion for the selection of educational practices, for the reason that the principles serve as controls in thinking, even though the controls must be admitted to be tentative. Still, inference of any kind is an indirect form of solving problems and, even when the premises are acceptable, is open to whatever logical errors are characteristic of the person who is making the deductions. A direct attack on problems, educational or otherwise, is to be preferred.

EFFECTS OF THE ARITHMETIC CRUTCH ON ABILITY TO ADD PROPER FRACTIONS

The foregoing criticisms of theory and psychological deduction as a basis for educational practice explain why the writer welcomed the opportunity to measure the effects of use of the particular arithmetic crutch which was found in the course of the investigation. The fact that in all seven schools the arithmetic textbook was the same and the arithmetic course of study essentially the same served to emphasize and, as it were, to isolate this instructional device in the two schools which taught the use of the crutch. There were also two other features of the situation which, from the standpoint of research, were especially encouraging. In the first place, the crutch was employed under conditions which favored a quantitative type of evaluation. In the second place, the device used in the two schools¹ seemed to be an excellent example of what is usually termed a crutch. It was not original with the children. On the contrary, it was given them by their teachers. Its purpose was to explain the logic underlying the operations involved in adding proper fractions. While the children were required to show the form in every example in this process, they were expected to use it only temporarily—until the end of the term. The arithmetical operations made necessary by its use were artificial, cumbersome, and inflexible. Altogether, it seemed that, if the four major objections raised against crutches

¹ As used in performing the addition in one of the simplest examples in the test, the crutch had the following appearance:

$$\begin{array}{ccccccc}
 (1) & (2) & (3) & (4) & (5) & (6) & (7) \\
 \frac{1}{6} & = & \frac{1}{6} & \times & \frac{1}{1} & = & \frac{1}{6} \\
 \frac{2}{6} & = & \frac{2}{6} & \times & \frac{1}{1} & = & \frac{2}{6} \\
 & & & & & & \frac{1}{2}
 \end{array}$$

in general were really valid and absolute, the objections ought to be demonstrable in concrete form in the case of this particular crutch.

Effect on initial learning.—Two of the four objections to crutches which have already been listed bear on learning in its initial stages. It is claimed (1) that crutches frequently obscure the process which they are designed to explain and (2) that they are often as difficult to learn as are the processes without them. Since this investigation was not instituted until after the children had passed through the early stages of learning and were supposedly proficient in adding proper fractions, it was impossible to secure data of immediate and direct relevancy to these two objections. However, data of an indirect sort were secured. All 245 children took a test consisting of fifteen examples in the addition of proper fractions. The scores of the 80 children using the crutch did not differ materially from the scores of the 165 children using no crutch. In other words, the children using the crutch *had* learned to add fractions about as well as had the children who knew nothing of the crutch. With what difficulty the crutch children had learned the form itself and whether the form assisted them or impeded them in developing the ability it was intended to explain, is not known. But this much can be said with assurance: if the crutch introduced special elements of difficulty into the learning, those difficulties were not insurmountable and did not show themselves in any way in the test of ability.

Effect on level of ability attained.—Consideration of the third objection, that crutches tend to remain as habits after they have ceased to be of value, may be postponed for the moment. The fourth objection is to the effect that crutches block learning and encourage their users to remain at unnecessarily low levels of efficiency and maturity in the functions learned. On this point, as it applied to the fraction crutch, two bodies of data were available. The first body of data has already been mentioned: on the group fraction test the crutch children showed clearly that they were as efficient in adding proper fractions as were the non-crutch children. The second body of data was collected by means of personal interviews which were held at the time of the group tests. A careful record was kept of the undesirable habits, erroneous processes, and faulty procedures which were employed by each of the 245 children in adding the fractions

in the test. Later these faults were classified and tabulated. A comparison of the crutch and the non-crutch children showed no significant difference between the two groups with respect to the total number of different faults, the number of times faults appeared in the reports of their thinking, the average number of children who employed the different faults, or the average number of times each faulty procedure was used. The crutch appeared to represent a set of habits which were self-contained and relatively autonomous—a system which allied itself with, or remained apart from, other sets of habits (such as those here called "faults") as the circumstances of learning dictated. To teach children the crutch did not make them any the less capable of developing mature forms of skill in adding fractions. Furthermore, the inference appears to be justified that, not having led to the adoption of an unusual number of faults or to excessive reliance on those employed, the crutch did not seriously interfere with the initial learning of the arithmetical process involved.

Persistence of the crutch.—Concerning the third objection, that crutches outlive their usefulness and persist as permanent habits, the data obtained for the fraction crutch were complete and directly relevant. As a consequence, three conclusions could be drawn with confidence, one of them meeting the objection directly and the other two bearing on related issues.

The data, first of all, revealed that the majority of the eighty children who were taught the crutch discarded it in little more, and perhaps in less, than four months' time from their introduction to its use. The evidence for this conclusion is as follows: (1) In School 1 none of the twenty-two children in the higher section of the grade used the form on Test 1 (the first time the fraction test of fifteen examples was administered), that is to say, four months after beginning the study of the addition of fractions. (2) Three of the children in the lower section, in which instruction in adding fractions had been completed about six weeks before the test, failed to use the crutch on Test 1. Two of these pupils were repeating the work of the quarter and hence might properly be classed with the twenty-two children in the higher section so far as familiarity with the crutch is concerned. (3) The teacher of this lower section reported great difficulty in maintaining the continued use of the crutch after the chil-

dren discovered, within a few weeks, that they could add fractions without it. (4) None of the twenty-three children in the lower section used the form on Test 2, given three months after Test 1, at which time they were enrolled under a new teacher in the higher section of the grade. (5) This new teacher is authority for the statement that only a few of the twenty-three children had to be taught new methods to replace the crutch when they came to her at the beginning of the quarter and that these few mastered the new methods with comparative ease. (6) In School 2 none of the children in Grade VI employed the form a year and four months after they had been taught it. (7) Furthermore, the teacher of the grade testified that but a few of their number used it at the beginning of the year. (8) In Grade V several children on Test 1, given six weeks after instruction on the crutch, added fractions without it. (9) The data for Test 2, given three months later, showed the crutch still in common use. It was found, however, that these data were invalid, for the teacher at the time of this test had inadvertently warned the children to show on their papers how they had secured their answers, thereby specifically encouraging them to employ the crutch. The mere fact that this teacher, in order to insure that the children reveal their use of the crutch, felt the necessity of cautioning them to do so is evidence of her knowledge that many of them were accustomed to adding fractions without it.

Related to this first conclusion are two others which are based on the same data. The second conclusion is that not all children of their own initiative invented or adopted from others a new method to take the place of the crutch which they had been taught. This conclusion is based principally on the statements of the teacher of Grade VI in School 2 and of the teacher of the advanced section in Grade V of School 1 to the effect that some pupils, months after they had been taught to use the crutch and a considerable period of time after many of their classmates had dispensed with it, still continued to use the old form. It may well be the indisputable presence of some pupils of this type in every school that has led certain writers on methods of teaching and on the psychology of learning to object to crutches on the ground that they become fixed forms of behavior.

It is relatively easy to exaggerate the significance attaching to the reactions of a few children and, as a consequence, to condemn any given device because it has apparently worked some harmful effect on those few. So far as the fraction crutch is concerned, the number of children who betrayed long-time dependence on the form was very small, and all of them, according to their teachers, responded readily to instruction in more approved procedures. Almost all instructional devices, not crutches alone, would have to be proscribed if a standard of effectiveness of 100 per cent were required for their use. Too much is known about the facts of individual differences in children to permit one seriously to expect any method of teaching to be equally well adapted to all pupils.

The third conclusion is that the teachers in the two schools studied, by setting up appropriate regulations and by insisting on the observance of these regulations, were able to secure some use of the crutch even after it had lost whatever value it may at one time have had for learning. Among the fifth-grade children in both schools, there were undoubtedly many who on Test 1, and in School 2 on Test 2 also, would have done as well without the form but who employed it because they knew they were expected to. Under circumstances of this kind, use of some undesirable device may be, and probably frequently is, misinterpreted to be the result of a need for that device rather than the effect of the trait of docility and of willingness to comply with instructions.

Limitations to conclusions.—Attention has already been called to the fact that all the conclusions, framed as they are with reference to the four major objections to crutches, are negative. That is to say, the conclusions merely state that the four types of harmful results which are said to follow from the teaching of crutches did not occur in the case of the fraction crutch—at least in so far as these results could be measured by the means which were adopted. Nothing in these conclusions, however, warrants the inference that on this account the crutch should be taught. In order that the soundness of this inference might be tested, specially designed experiments, much broader in their scope than the investigation summarized in this article, would need to be prosecuted.

IMPLICATIONS OF THE STUDY FOR TEACHING
AND THE PSYCHOLOGY OF LEARNING

How far one is justified in generalizing from this single partial evaluation of a crutch is a question. According to the more rigorous tenets of science, generalizations could not safely be formulated until, first, the consequences of the fraction crutch reported here for two schools were shown to correspond with the consequences of the use of the crutch in other schools like and unlike the two of this investigation and until, second, it was established that the consequences of the fraction crutch are typical of crutches in general. In the absence of such extensive data, one may be guilty, in generalizing, of committing the same errors which were mentioned in criticizing inference as a basis for educational method. Nevertheless, on grounds something like those of the logician who discredits a universal by discovering an exception thereto, an attempt will be made to generalize from this one study of a single crutch. The generalizations will, however, take the form of cautions and suggestions rather than of principles and scientific conclusions.

Criticism of psychological principles underlying objections to crutches.—Two psychological principles are implicit, and sometimes explicit, in the objections of educational theorists to teaching crutches. One of these has already been referred to: "Other things being equal, form no habits which must later be broken." The other of the principles may be stated: "Acquire reactions in the form in which they are to be used." Both of these principles need to be taken, not as "laws" as they generally are taken, but as guides and checks to thinking. Otherwise, one may readily err more seriously in applying the principles than one would err if one had these principles not at all.

In the first of the principles the use of the verb "to break" is unfortunate. This word implies a type of change in behavior which is actually far less fundamental and far more common than seems to be suggested. As a matter of fact, when one "breaks" a habit, he really substitutes one mode of response for another. It is not a case of eradicating anything, of shattering it, or of rooting it out of the organism. Rather, the patterns representing the "broken" habit are still in the neuromuscular system and are fully susceptible to excita-

tion even after the newer forms of response are well established. In other words, the "broken" habit is merely one which is no longer used, having been superseded, or at least overlaid, by a new habit. When for any reason the new habit cannot or should not be innervated, the "broken" habit is found ready to perform—and in many cases to the immense profit of the individual. When the infant, in learning to walk, "breaks" the habit of crawling, the acquisition of the new behavior pattern does not annihilate the old pattern: the infant is not rendered incapable of crawling; he simply does not crawl because walking is usually a more economical and effective mode of reacting. If for any reason the act of walking cannot or should not be performed, the infant can and does crawl.

Something analogous seems to have been characteristic of the experience of the eighty children who in the two schools investigated first learned and then abandoned the fraction crutch. They certainly formed the habits which are required by the crutch, and just as certainly they "broke" those habits, that is, they substituted new forms of response for old forms. The old habits were not absolutely gone; they simply were not regularly employed to add fractions. When unusual circumstances (such as the caution of the teacher in School 2 at the time of Test 2) made it undesirable to use the new habits, the old ones could and did function.

There is also in this first principle ("Other things being equal, form no habits which must later be broken.") another qualification which needs to be appreciated if the principle is to be properly applied. The principle seems to suggest that learning should proceed in a straight line and that, through the exercise of the necessary precautions, this straight course of learning may readily be made a reality. At the risk of being as dogmatic as the principle appears to be, it may be stated that *no* learning ever takes place in a straight line. Whether it *should* so take place is even debatable. The customary course of learning is crooked and irregular, it consists, even under the most favorable circumstances, in a series of errors and corrections, of awkward adjustments and their refinement, of growth from primitive clumsy performance to mature proficiency in the function being learned. Nor is it to be thought "wasteful" that this course is characteristic of learning. Errors, inadequate adjustments, imma-

ture types of performance may contribute much, not merely to the ultimate development of a high degree of ability in the given function, but also to the better learning of other functions. The unpleasant experiences of one's first attempts to swim may not only develop a healthy fear of water, which is one aspect of the function being learned, but may also be wholesome correctives to foolhardiness in general. To make the point without further elaboration, one needs to pay due heed to the first four words of the principle, "Other things being equal," In certain circumstances the limitation suggested by these words may be so important as to negate the rest of the principle and to make it read: "Form no habits which must later be broken unless you should form habits which must later be broken."

To a considerable degree the notion that learning should, and frequently does, proceed in a straight line is involved in the second principle, "Acquire reactions in the form in which they are to be used." Careless interpretation of this principle also assumes that once a reaction has been mastered, learning is to that extent completed: the given reaction is from that time forward susceptible to the stimuli with which it became associated in learning, and to these stimuli the response is made substantially without modification. Such a view makes learning a static thing, something which can at some point be regarded as finished. It neglects the ceaseless change which occurs both in the stimulating situation and in the reacting organism. As a matter of fact, one never reacts twice to the same situation in the same way. Always in the second situation changes have taken place—if not in the potential stimuli, then in the organism itself. The making of the first response alters the organism too much (even were there no other changes in the elapsed time) to justify the statement that the *same* organism responds the second time. Put somewhat less technically, learning never stops at some point; the reactions which are acquired are continuously subject to modification from subsequent reactions. Learning is dynamic, not static. Growth and development are possible only because of the constant change in behavior, and it is characteristic of growth and development that with opportunity for experience this change is in the direction of greater economy of response.

Due recognition of the dynamics of behavior and of learning is needed to protect one from absurd applications of the principle, "Acquire reactions in the form in which they are to be used." Contrary to the apparent implication of this dictum, learning is not completed at a jump. If the function learned is at all complicated, the early forms of reaction must inevitably be crude. These crude reactions are not the reactions which characterize performance at later stages. On the other hand, the reactions which characterize skilled performance cannot be at once acquired. They are the products of the kind of evolution which is suggested in the preceding paragraph.

A position with respect to crutches.—This article concludes on essentially the same notes which were struck in some of the early paragraphs. There are serious dangers in the practice both of attacking and of defending crutches in terms of personal opinion and inference from psychological principles. The need is for the experimental investigation of the virtues of proposed procedures. Pending such studies, a person may for himself rely on his experience with procedures and devices, retaining them for himself if they have proved of value and rejecting them for himself if they have served no useful end. In the absence alike of research and personal experience, decisions based on opinion and psychological deductions must be carefully safeguarded. No psychological principle is so inclusive that it alone suffices to determine action in an educational situation. Always attention must be given both to the limitations of the general principle and to the operation of other principles which apply. The tendency has been to base arguments on too few principles and on too narrow interpretation of those selected. When the course of learning is seen in its entirety and its complexity, the problem of crutches may take on different meaning. Furthermore, it is well to bear in mind that the ultimate standard by which educational procedures are to be judged is not whether they are crutches or are not crutches but whether they facilitate learning or interfere with learning. In order that this fundamental criterion might be more generally honored, it might even be well to eliminate the term "crutches" from the vocabulary of education.

SELECTED REFERENCES ON KINDERGARTEN- PRIMARY EDUCATION

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This article presents the second list of selected references dealing with kindergarten-primary education. The publications listed herein appeared during the year from January 1, 1933, to January 1, 1934. In general, studies in special subject-matter fields or in the field of preschool work have been excluded unless they give major emphasis to kindergarten-primary problems. The titles, chosen from the much longer list of publications for the year, are grouped under the following headings: (1) general educational aspects; (2) organization, techniques, and curriculum; (3) investigations and experimental studies.

GENERAL EDUCATIONAL ASPECTS¹

140. BAILEY, EDNA W., LATON, ANITA D., and BISHOP, ELIZABETH L. *Outline for Study of Children in Schools*. New York: McGraw-Hill Book Co., Inc., 1933. Pp. viii+248.

Presents manual for directed study and observation of child growth and development at preschool, elementary-school, and secondary-school levels. Organized data gleaned from the literature of the field, forms for recording observations, and a table of psychometric tests are outstanding features.

141. DAVIS, MARY DABNEY. "Reconstructing Legislation," *Childhood Education*, X (October, 1933), 11-15.

Reviews laws governing the establishing and the maintaining of kindergartens in all states and gives practical suggestions for reconstructing ineffective laws.

142. FORMAN, HENRY JAMES *Our Movie Made Children*. Payne Fund Studies of Motion Pictures and Youth. New York: Macmillan Co., 1933. Pp. viii+288.

Sets forth facts collected by a group of investigators during four years of study in a dozen cities. Discusses movie-going habits of children; the nature of the pictures; and their influence on sleep, on general well-being, and on mental, emotional, and moral development.

¹ See also Items 124, 127, 137, and 139 in the list of selected references appearing in the March, 1934, number of the *Elementary School Journal*.

143. FOSTER, JOSEPHINE C. (Editor). *The Broadening Field of Teacher Activity*. Bulletin of the Association for Childhood Education. Washington: Association for Childhood Education, 1933. Pp. 36.
Includes reports given at the 1932 conference of the association and articles specially submitted by the following persons: Josephine C. Foster, Ruth Andrus, George D. Stoddard, Leo J. Brueckner, Neith E. Headley, and Marie Belle Fowler. Papers concern health education, keeping records, research, and home and school co-operation.
144. FREEMAN, FRANK N. "Needed Research in the New Education," *Progressive Education*, X (April, 1933), 220-24.
Classifies educational research under at least three headings: discovery, invention, and testing. Stresses needed developments in the first two types and points out importance of shifting emphasis from "exclusive pursuit of measurement to an energetic pursuit of the other two types of research."
145. HILL, PATTY SMITH. "Shall the Youngest Suffer Most?" *Parents' Magazine*, VIII (April, 1933), 13.
Characterizes preschool period as one susceptible to disease, emotional strains, and influences from criminal surroundings. Urges school officers and parents to find ways and means of adjusting conditions for kindergarten-primary children in order that they may be protected from the physical, emotional, and social disturbances induced by economic stress in homes.
146. HISSONG, CLYDE, and HISSONG, MARY. *An Introduction to the Principles of Teaching*. Philadelphia. John C. Winston Co., 1933. Pp. xii+260.
Discusses progress of educational theory from teachings of Locke to those of Dewey and seeks to formulate a teaching procedure based on findings of biological, psychological, and sociological research.
147. ISAACS, SUSAN S. *Social Development in Young Children*. Behavior of Young Children, Vol. II. London: George Routledge & Sons, Ltd., 1933. Pp. xii+480. (Obtainable in the United States from Harcourt, Brace & Co., New York City.)
Follows earlier volume, *Intellectual Growth in Young Children*. Presents studies carried on at Malting House School, Cambridge, England. Part I gives descriptive records of various aspects of social behavior, and Part II deals with bearing of these on educational problems.
148. REED, MARY M. "Conference on the Educational Status of the Four and Five Year Old Child," *Childhood Education*, IX (June, 1933), 481-82.
Reports on various problems discussed at the two-day conference held at Teachers College, Columbia University. Discussion leaders included John Dewey, George D. Strayer, Margaret Holmes, Willard D. Bently, Mary Dabney Davis, Patty Smith Hill, Mary M. Reed, and others.
149. RUSK, ROBERT R. *A History of Infant Education*. London. University of London Press, Ltd., 1933. Pp. viii+196.
Points out the need for evaluation of policies of infant education for purposes of shaping present practices. Traces development of infant education from

Comenius to the present day and discusses philosophical influences governing state regulations of present infant schools of Great Britain.

150. SMITH, NORA A. "Early Days in the Kindergarten Movement in California," *Western Journal of Education*, XXXIX (September, 1933), 13; (October, 1933), 13-15.

Gives historical material regarding the establishment of first free kindergartens west of the Rocky Mountains by the writer's sister, Kate Douglas Wiggin.

151. STODDARD, GEORGE D. *What the Kindergarten and Nursery School Have in Store for Parent and Child*. Child Welfare Pamphlets, No. 17. Bulletin of the University of Iowa, New Series, No. 694. Iowa City, Iowa: University of Iowa, 1933. Pp. 8.

Discusses offerings of modern nursery schools and kindergartens under the topics: play facilities, assistance in habit formation, problems of nutrition and health, provisions for social development, preventing and eliminating undesirable behavior, maladjustments, parent education, and similar topics.

ORGANIZATION, TECHNIQUES, AND CURRICULUM¹

152. ARBUTHNOT, MAY HILL. "The Child's Growth in Language," *Parents' Magazine*, VIII (April, 1933), 26-27, 58-61.

Describes characteristics of child's early speech and suggests ways of guiding subsequent language development.

153. BAKER, EDNA DEAN. "Interpreting the Kindergarten," *Journal of the National Education Association*, XXII (April, 1933), 121-22.

Submits evidence supporting thesis that the years before entry into the first grade cover periods of most rapid growth for child—physically, psychologically, and socially. Urges that kindergarten be retained as means of guiding and safeguarding wholesome development.

154. BERNHARDT, JANE, and DAWSON, MARGARET. "The School Environment for the Four Year Child," *Childhood Education*, IX (February, 1933), 248-52.

Describes situations originating in play activities of four-year-old kindergarten children. Urges differentiation of program from that provided for the five-year-old kindergarten pupils.

155. BURKE, MARJORIE. "The Kindergarten Prepares for Reading Success," *American Childhood*, XIX (October, 1933), 13-15, 46-47.

Discusses six types of experience characteristic of kindergarten procedures that contribute to reading readiness.

¹ See also Items 249 and 251 in the list of selected references appearing in the September, 1933, number of the *Elementary School Journal*, Item 299 in the October, 1933, number, and Items 463 and 480 in the November, 1933, number.

156. COOK, GRACE "Progressive Activities in the Third Grade," *Childhood Education*, IX (June, 1933), 476-78.
Discusses criteria for choosing activities, teacher's part in organizing the activities, and ways of guiding the expanding interests of children.
157. COULTER, EVELYN. "Building Social Attitudes in Young Children," *Progressive Education*, X (October, 1933), 326-28.
Describes social thinking of third- and fourth-grade children pertinent to present-day problems, which was encouraged by a group of primary teachers.
158. DALGLIESH, ALICE. "Picture Books for Today's Children," *Childhood Education*, X (November, 1933), 65-67.
Evaluates selected list of new books for young children.
159. DEMIASHKEVICH, M. J. "Some Doubts about the Activity Movement," *Harvard Teachers Record*, III (October, 1933), 170-78.
Presents criticisms under nine topics: (1) neglect of certain fundamentals, (2) opposition to indoctrination, (3) disregard of mental discipline, (4) failure to train for independent thinking, (5) opposition to books, (6) opposition to memory work, (7) exaggeration of value of experiences, (8) exaggeration of value of play, and (9) false concept of the secret of happiness.
160. DOBBS, ELLA VICTORIA. "Principles and Procedures in Handwork Activities," *Childhood Education*, X (December, 1933), 131-33, 164.
Discusses tools, materials, and methods for early construction.
161. DOLCH, EDWARD WILLIAM. "Testing Reading," *Elementary School Journal*, XXXIV (September, 1933), 36-43.
Analyzes various types of ability needed in learning to read and points out need for tests of these abilities at particular grade levels.
162. ELLIOTT, CHARLES H. "Social Studies in the Rural School," *American Childhood*, XIX (September, 1933), 14-15; (October, 1933), 10-11, 39-40, 42.
Presents course of study growing out of co-operative effort of country schools of New York. Gives units of activities in study of neighborhood farm life.
163. GIVENS, WILLARD E. "School Journeys," *American Childhood*, XIX (September, 1933), 6-7, 40, (November, 1933), 10-11.
Selected articles from a monograph, "Some Oakland School Journeys and What Came of Them," prepared by a committee on improvement of instruction in visual education. Discusses community contacts gained by classes taken on journeys by teachers who seek to vitalize classroom teaching by enriching the experiences of children.
164. KNIGHT, F. B. "Observations upon Beginning Arithmetic," *Childhood Education*, IX (February, 1933), 234-40.
Analyzes the present teaching of arithmetic in primary grades and suggests possible changes in content and procedures.

- 165 MANUEL, HERSCHEL T., and VOYER, MARY THOMPSON, "What Shall We Expect of the Child Who Enters School at Six Years of Age?" *Educational Administration and Supervision*, XIX (October, 1933), 521-28.
Recommends deferring beginning reading for immature school entrants.
- 166 REYNOLDS, CLARA P. "Child Art in the Franz Cizek School in Vienna," *Childhood Education*, X (December, 1933), 121-26, 152.
Reports on a lecture given by Cizek to a group of American teachers, in which are embodied principles and characteristics of his work with children between the ages of six and sixteen
167. *Teaching the Social Studies in Grades One, Two and Three*. Curriculum Bulletin No. 2. Memphis, Tennessee: State Teachers College and Memphis Public Schools, 1933. Pp. 90.
Sets forth objectives and criteria for judging units of work in social studies and outlines suggestive procedures for primary grades. This bulletin and an earlier one, a course of study in arithmetic, are parts of a tentative curriculum for primary grades and represent the outcome of co-operative efforts of local teachers enrolled in the State Teachers College, Memphis, Tennessee
- 168 VEVERKA, M. MADILENE. "Fine and Industrial Arts in the Life of the Child," *Childhood Education*, X (December, 1933), 118-20.
A director of elementary courses of study discusses values of fine and industrial arts in a balanced program of activities in the primary grades.
169. WILKINSON, MARY S. (Chairman). *The Right Book for the Right Child*. New York: John Day Co., 1933. Pp. xxvi+358.
An annotated list selected by a subcommittee of the Committee on Library Work with Children of the American Library Association and graded by the Research Department of the Winnetka Public Schools. The first eighteen pages list books for preschool children, the next sixteen pages, books for primary-school children.

INVESTIGATIONS AND EXPERIMENTAL STUDIES¹

170. BONEY, C. DE WITT. *A Study of Library Reading in the Primary Grades*. Teachers College Contributions to Education, No. 578. New York: Teachers College, Columbia University, 1933. Pp. vi+70.
Surveys sixty-one courses of study in reading and seventy-five professional books issued between 1912 and 1931. Finds that emphasis during latter seven years of the period is given to library reading as integral part of primary reading program. Examines techniques for conducting library reading programs set forth in the literature studied

¹ See also Item 308 in the list of selected references appearing in the October, 1933, number of the *Elementary School Journal*, Items 432 and 474 in the November, 1933, number, and Items 74, 80, 98, 107, 114, and 121 in the March, 1934, number.

171. GRAHAM, BEN G. "Amount of Instruction Cost Allotted to Kindergartens," *Official Report of the Department of Superintendence*, pp. 229-30. Washington: Department of Superintendence of the National Education Association, 1933.
Interprets data submitted by sixty-eight large cities on administrative practices governing kindergartens and indicates decreases or increases in kindergarten service.
172. GUNDERSON, AGNES G. "Geographical Materials Contained in Readers for the First Three Grades," *Elementary School Journal*, XXXIII (April, 1933), 608-15.
The author analyzed ten series of school readers to determine the extent of the geographical material included in the textual material. The content was checked for (1) bare mention, (2) brief minor mention, (3) extensive minor mention, and (4) major mention. Several unanswered questions are raised.
173. HILDRETH, GERTRUDE. "Information Tests of First Grade Children," *Childhood Education*, IX (May, 1933), 416-20.
Discusses results obtained from an information questionnaire given to first-grade entrants. Suggests use of the data in determining curricular needs of beginners.
174. JAMES, PHILIP. *Children's Books of Yesterday*. Edited by C. Geoffrey Holme. New York. Studio Publications, Inc., 1933. Pp. 128
Presents reproductions of pages from children's books now in public and private collections in America and Europe. Reproductions range in date from 1672 (when first picture-book for children was published) to 1902. A companion work to *Children's Toys of Yesterday* (1932) and *Art for Children* (1929).
175. JERSILD, ARTHUR T. *Child Psychology*. New York: Pientice-Hall, Inc., 1933. Pp. xiv+462.
Provides logical treatment of child's development from birth through early childhood. Includes development of language, motor skills, the emotions, social behavior, learning, individual differences, growth of understanding, and development of personality. Book includes results of researches at Child Development Institute, Teachers College, Columbia University, and elsewhere.
176. JERSILD, ARTHUR T., MARKEY, FRANCES V., and JERSILD, CATHERINE L. *Children's Fears, Dreams, Wishes, Daydreams, Likes, Dislikes, Pleasant and Unpleasant Memories*. Child Development Monographs, No. 12. New York: Teachers College, Columbia University, 1933. Pp. xii+172.
A study by the interview method of four hundred children from five to twelve years of age.
177. LITHAUER, DONAH B. "A Follow-up Report of the Later School Progress of Children of Primary School Age Trained in an Experimental Kindergarten," *Journal of Juvenile Research*, XVII (July-October, 1933), 175-78.
Follows progress of slow group of school entrants given kindergarten training as described in a previous article, "Experimental Kindergarten for Children

of Primary School Age," appearing in the *Journal of Juvenile Research* for April, 1932. Discusses progress of the same children through primary and intermediate grades and indicates the value of special kindergarten training in prevention of failure.

178. NOREM, G. M., and WIEDERAENDERS, M. F. *Studies in the Psychology of Learning*. Educational Psychology Series, No. 1. University of Iowa Studies in Education, Vol. VIII, No. 6. Iowa City, Iowa: University of Iowa, 1933. Pp. 76.

Revalues experiments in transfer of training and presents a critique of the "bond and Gestalt psychologies" applied to problems of elementary reading.

179. PECK, PAMELIA LEIGH. "The Use of Drawings in Predicting the School Achievement of Beginning Children," *Educational Administration and Supervision*, XIX (November, 1933), 621-26.

Analyzes limitations of existing tests of drawings and presents modifications used in tentative test that author is formulating.

180. SANFORD, CHARLES WILSON. *A Critical Study of Certain Aspects of Infant and Common School Education, 1810-40* (Abstract of Doctor's Thesis). Urbana, Illinois: University of Illinois, 1933. Pp. 8.

Summarizes characteristics and practices. Establishes 1818 as the date of introduction of tuitional infant schools and 1840 as the date of introduction of "free infant schools, which became primary schools." On basis of evidence gleaned from newspapers, journals, and general literature of the period, the author concludes that the essential features of educational practice differed greatly from those found in latter-day histories of education.

181. WITTY, P. A., and LEHMAN, H. C. "The Instinct Hypothesis versus the Maturation Hypothesis," *Psychological Review*, XL (January, 1933), 33-59.

Reviews and criticizes recent studies dealing with maturation and practice effect under six headings. Points out that these studies are breaking down the older distinction between "instructive" and "learned" behavior and concludes on basis of evidence submitted that most forms of behavior depend on a combination of hereditary-environmental factors.

Educational Writings

REVIEWS AND BOOK NOTES

A symposium in school administration.—The value to the profession of school administrators of a symposium¹ which includes brief treatments of its major problems by twelve representative men will determine the extent of its contribution to the literature of public-school administration. Prepared by the friends of Ellwood P. Cubberley and dedicated to him at the time of his retirement from Stanford University, this volume represents a fitting encomium to that great leader in educational administration. Each of the twelve contributors gives expression to the appreciation of school administrators for the unique contribution which Dr. Cubberley has made to the public schools of this country.

In addition, the contributors attempt to carry on where Cubberley left off; to state the problems in the several phases of administration which the changing conditions during the past five years have brought to the front; to summarize the background which is necessary for an intelligent grasp of these problems; to formulate the principles on which their solution depends; and to give, in so far as the limited treatment will permit, some suggestions with regard to the practical ways and means by which the schools will continue to improve.

Since each contribution was limited to twenty pages, the success with which the authors deal with the particular phases of public-school administration allotted to them is varied, depending on the nature of the material and the complexity of the problems involved, as well as on the ability of an author to contract his material without sacrificing clearness for conciseness. For example, the three articles dealing with the relation of the superintendent to the board of education, the administrative work of the principal, and the school-survey movement are so limited in their titles that it is possible for them to contain a fairly adequate, even though a very concise, statement of the fundamental principles and a discussion of the outstanding problems. On these subjects the respective authors—Strayer, McClure, and Sears—have been successful in meeting the situation. In such fields, however, as the supervision and improvement of instruction, and the construction and revision of the curriculum, the twenty pages, in spite of the skilful attempts of the authors—Kyte and Norton, respectively—are palpably insufficient to provide more than a good running start.

¹ *Modern School Administration. Its Problems and Progress.* Edited by John C. Almack. Boston: Houghton Mifflin Co., 1933. Pp. x+382. \$2.50.

An important decision is made by each author in determining the amount of illustrative detail needed to make the material readable and easily applicable. Reeder, in the article "School Finances and Business Management," presents a mixture of detail illustrating how a superintendent may effect economies, a summary (necessarily too brief) of the principles of taxation, with a plan for the business education of the superintendent. In spite of such a mixture, the treatment is good in that it stimulates interest, indicates the most urgent problems, and gives some good advice with regard to professional preparation in this phase of the work of the superintendent. The article "School Properties and School-house Construction," by Hill and Bursch, the only article in the symposium which is written jointly by two authors, is a very interesting combination of the educational philosophy underlying the design of modern school buildings and such practical phases of the subject as the building-repairs program, management of supplies, and school property accounting. The abruptness with which the reader plunges from practical detail to philosophical analysis and generalization is an indication of the difficulties under which the authors labored in contracting their material to the limited space allotted them.

The question of the function of a symposium of the kind represented by this volume naturally arises. Although in the field of professional literature compilations by several authors have appeared, this volume is unique in its attempt to cover the entire field of school administration, as well as in the precise, uniform, and highly restricted allotment of pages to each division of the field. The use of such a volume with students beginning the study of public-school administration may be justified on the ground that it will serve to orient the students in the field and stimulate them to further study and investigation in those particular divisions of the work which claim their interest. On the other hand, a concise summation of this type for beginning students in one of the other professions, for example, medicine, would be considered premature and inadvisable. In my opinion, this criticism is equally valid in the relatively infant profession of school administration. I believe, therefore, that this volume will find its best function as a convenient vehicle, possibly as a substitute for professional periodical material, to bring to the administrators with training and experience, already working in the field, a summary of the recent developments in their profession.

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An appraisal of the major systems of school fund custody.—Beach's study¹ aims primarily at a critical investigation of the systems of school-fund custody in vogue in New York, with a view to the correction of deficiencies and evils. In

¹Fred F. Beach, *The Custody of School Funds: An Appraisal of Systems of School Fund Custody with Particular Reference to New York State*. Teachers College Contributions to Education, No. 577. New York. Teachers College, Columbia University, 1933. Pp. x+160. \$1.75.

effect, however, it develops general criteria of efficiency and applies these criteria to the appraisal of the major systems of school-fund custody found in the United States.

Seven different criteria are developed and validated in Part I of the study, and four of them are used in the comparative evaluation of four systems of school-fund custody. The criteria include safety, economy, knowledge of financial status, responsibility, simplicity, readiness for audit, and selection of personnel. The custody systems examined in the light of these criteria are (1) the school-board-treasurer system, (2) the clerk-treasurer system, (3) the governmental-treasurer system, and (4) the depository system.

Application of the criteria to the systems brings out the following points: (1) From the standpoint of safety, the clerk-treasurer system is weak and the depository system is strong in that the latter is, and the former is not, readily subjected to internal check. (2) From the standpoints of economy and simplicity, the clerk-treasurer and the depository systems are the cheapest and the least awkward to operate. (3) From the standpoint of personnel, measured by the possibility of securing a person with training, character, and experience for the trust of custodianship, the depository system ranks highest. Next in order is the clerk-treasurer system. Of the four systems of custody, the depository system "recommends itself most highly."

Part II of the study applies the results arrived at in Part I to the systems of school-fund custody operative in the state of New York. The interest of Part II is therefore more restricted than that of Part I.

The study is well conceived, well organized, and well written, and it constitutes an important addition to the literature on public-school finance. In the reviewer's judgment, however, one important criterion has been overlooked. Experience with the depository system in Texas (see *Texas Educational Survey Report*, Volume II, chapter viii) indicates that, while this system stimulates adequate general accounting of the receipts and the expenditures of school moneys in terms of legally recognized "funds," it is difficult to secure adequate functional accounting in terms of the standardized school-accounting systems. Banks and other depositories are divorced from the schools as such and are not easily convinced of the need for more than an accurate accounting of various funds. If functional accounting exists, particularly in the smaller independent districts, it is, in Texas, generally provided by the schools at additional expense.

B. F. PITTENGER

UNIVERSITY OF TEXAS

The effect of motion-picture shows on the sleep of children.—In nearly every household where there are children, it is a problem of considerable practical importance to determine when, if at all, they should be allowed to attend the movies. What benefits are to be derived, and what bad effects may there be, and do the beneficial effects outweigh the evil, or vice versa? Obviously, we are far from

having reliable data with which to answer such questions and will be for a long time to come. Furthermore, no one can doubt that proper habits of sleeping are among the most important habits with which a child can be equipped for a useful and happy life. While there is evidence that sleeping, in its characteristic mode of appearance in any individual, is subject to training, there is relatively little known concerning what constitutes normal sleep—whether wide variations as to duration, regularity, and depth of sleep may exist without harmful effects, whether the recuperative effects of sleep are proportional to its depth, and whether depth is directly related to absence of bodily restlessness during the period of sleeping.

The monograph under review¹ presents new data with reference to these problems. It is the record of prolonged and painstaking investigations of the sleeping habits of a group of 170 children of both sexes from six to eighteen years of age, who were at the time of the study inmates of the Ohio State Bureau of Juvenile Research. The data were secured by the use of a device attached to the bed of each sleeper which recorded the occurrence, the extent, and the duration of all gross bodily movements made during the period of sleep. The study stretched over a period of 347 nights and thus enabled the investigators to secure data concerning seasonal variations in sleep as well as information on many other aspects of their problem, such as the effects on sleep of attendance at movies, the effect of coffee, and the effect of deprivation of sleep.

These means of study indicate that each child under routine conditions of living, that is, when not disturbed by illness or upset by emotional strains, tends to follow a rather consistent pattern of periods of restlessness and quiet throughout the night. However, the individual differences in these respects are so large as to preclude the use of the average as a norm in a regulative sense, at least in the case of older children. Younger children are more quiet sleepers than older. Variations in the temperature and the humidity of the air in the sleeping-room have little or no effect, except perhaps in the case of sudden and marked differences in temperature.

In general, there is evidence from this study for the view generally held that the earlier half of the sleeping period is the more recuperative, since it is the time of least restlessness. Activity is found to be greatest immediately after the child has gone to bed, and it then decreases gradually until a minimum for the entire night has been reached. This point of least activity occurs from one-half to one and a half hours after retiring. From this time onward the sleeper becomes gradually more and more restless until the time of awakening.

Attendance on motion-picture shows has a marked effect on the subsequent night's sleep. Usually the effect is to make the sleep more restless, but in many

¹ Samuel Renshaw, Vernon L. Miller, and Dorothy P. Marquis, *Children's Sleep: A Series of Studies on the Influence of Motion Pictures; Normal Age, Sex, and Seasonal Variations in Motility; Experimental Insomnia; the Effects of Coffee; and the Visual Flicker Limens of Children*. Payne Fund Studies of Motion Pictures and Youth. New York: Macmillan Co., 1933. Pp. xviii+238. \$2.00

cases the effect is the opposite. It is believed by the authors that both these conditions mark a reduction in the recuperative effect of the sleep though this conclusion seems by no means certain. The effect of the movies often persists beyond the night of attendance. Coffee taken at the evening meal, although the children were not accustomed to drinking it, caused considerably less restlessness than did the movies, nor was the effect increased when the coffee was taken on an empty stomach. Kaffee Hag was in no way different in its effects from genuine coffee.

The movie influence is not limited to changes in motility during sleep. The extent to which the total impression effect from a film may be reintegrated later, to influence the course of subsequent thought or conduct, is not revealed by our technique. We can conclude, however, from our results that seeing *some* films does induce a disturbance of relaxed, recuperative sleep in children to a degree which, if indulged with sufficient frequency, can be regarded as detrimental to normal health and growth. For certain highly sensitive or weak and unstable children the best hygienic policy would be to recommend very infrequent attendance at carefully selected films. On the other hand, certain films may have an instructive or cathartic and sedative effect that is good. We do not believe that any sweeping generalization can be made about the "type" of film or "type" of child most likely to be influenced (excepting, of course, the abnormals). There is a distinct need for careful, intensive study on individual children's reactions to movies, observed over a longer time than we have had at our disposal [p. 155].

E. H. CAMERON

UNIVERSITY OF ILLINOIS

Curriculum enrichment for superior children.—A recent investigation¹ of the possibilities of providing enriched instructional materials for superior children is of interest for at least three reasons: Any study of the grossly neglected interests of the superior child is welcome; studies in the administration of the curriculum are much more rare than they should be; and there are too few studies concerned with matters that are within reach of the typical classroom teacher. On all these counts Dransfield's study is a worthy contribution.

The procedure is the well-known technique of the controlled experiment dealing with 170 pairs of pupils. The groups were equated by means of standardized measures, and the procedure is satisfactory in all respects. Both groups were taught by the same teachers. The control group was taught in the conventional manner, while the experimental group devoted their extra time to the study of enrichment units. The units were concerned with fairy tales and folk lore in Grade III, with Colonial life in Grade V, and with population movements in Grade VII. After one semester the two groups were tested, and there was a difference of 9 points in favor of the experimental group, with a critical ratio of 5.366. The author concludes that the recitation time of the pupils can be re-

¹ J. Edgar Dransfield, *Administration of Enrichment to Superior Children in the Typical Classroom*. Teachers College Contributions to Education, No. 558. New York: Teachers College, Columbia University, 1933. Pp. vi+108. \$1.50.

duced in one or more specific subjects without injury to the regular studies and with profit in their enrichment work.

While the study is of general interest and merit, there are a few points at which the author did not fortify himself adequately. In the first place, the enrichment units, under ordinary circumstances, must be made out by the teacher; the author says merely that enrichment units should be available in large numbers, covering many fields of learning and vocations. This suggestion hardly gives a satisfactory solution for the cross-roads school.

Then there are two statistical matters which need attention. The author states that a critical ratio of 3 is satisfactory. This statement is correct in the case of standard error, but the author uses probable error. With the probable error a critical ratio of 4 or 4.5 is more convincing. Again, in calculating the probable error of differences, the author failed to use the correlation of his measures. Since the pupils were paired, the use of correlation seems defensible, and it would undoubtedly increase the significance of the difference found.

Those who oppose test questions of a factual character will be likely to object to the technique at this point.

All these matters are relatively unimportant in comparison with the author's demonstration that there is hope for the superior child, even in the conventional school with its meager equipment, crowded rooms, and over-burdened teachers. Every school administrator and teacher who is interested in the welfare of such children should read this monograph.

W. J. OSBURN

OHIO STATE DEPARTMENT OF EDUCATION

Standards for the construction of elementary-school buildings.—This book of standards for elementary-school buildings¹ is the 1933 revised edition of Strayer and Engelhardt's book which first appeared in 1916. These authors have published companion books of standards under the titles *Standards for Junior High School Buildings* and *Standards for High School Buildings*. Score cards have been developed to accompany each book of standards.

In the Introduction to the volume under review the authors discuss the development of school-building standards from their first appearance in 1831, research on school-building development, educational participation in the planning of school buildings, the development of significant literature concerning school buildings, and the development of the revised score card with the allotment of points on the items of the score card. A facsimile of the score card is presented showing the major and the minor divisions and the points allotted to each.

A chapter is given to the presentation and discussion of standards for each of the following topics: site, building, service systems, general classrooms, kin-

¹ George D. Strayer and N. L. Engelhardt, *Standards for Elementary School Buildings*. New York: Teachers College, Columbia University, 1933 (revised). Pp. vi+182.

dergarten, special-activity rooms, general service rooms, and administration rooms. The use of the score card and the preparation of the report are discussed in one chapter, and excerpts from dedicatory speeches are presented as an aid to the administrator. The Bibliography presents a selected list of eleven titles dealing with the planning of elementary-school buildings, eleven annual reports of superintendents of schools in which discussions of elementary education are to be found, and eighty-seven titles referring to available literature covering the use of the Strayer-Engelhardt Score Cards for School Buildings.

A more detailed presentation of school-building standards in the revised edition has been possible for the following reasons.

There has been very significant research developed by commissions or associations interested in school-building improvement, as well as by individual students working in the laboratories of our colleges of education. Practically no aspect of school-building development has been left untouched by research in some form or other. Lighting, ventilation, travel distances, operation of plant, utilization, acoustics, and the like have been made the basis of study by those who have sought the best ways and means of improving buildings at the lowest cost [p. 2].

The authors state that the standards which are presented are based not on the judgments of a few individuals but on the vast array of research and writing which is available to date.

The long experience of the authors in surveying school buildings in communities in all parts of the United States has enabled them to keep their standards in accord with the actual working conditions of the schools. School-building needs and standards have been discussed with superintendents, supervisors, principals, and classroom teachers. These people, in large groups, have contributed to the allotment of points to the different items on the score card and to the determination of the major and the minor subdivisions that should be included.

This revised edition is extensive in its presentation of standards; it is up to date; its standards, wherever possible, are based on research studies; and it recognizes the new demands made on our housing facilities by the changing educational program of the elementary school. These standards are essential in the evaluation and the planning of school buildings to meet modern educational demands.

OSMAN R. HULL

UNIVERSITY OF SOUTHERN CALIFORNIA

A textbook in educational psychology.—In the Preface of a textbook¹ in educational psychology the author says:

It would be an advantage if educational psychology could cease to be an assemblage of miscellaneous and unrelated topics, so that prospective teachers might come to view their work in at least as unified and systematic a way as the facts justify. The present

¹ H. L. Hollingworth, *Educational Psychology*. New York: D Appleton & Co, 1933 Pp. xvi+540. \$3.00.

text is written in the conviction that the human mind is really coherent; that the principles of learning and teaching are actually simple and capable of intelligible generalization, on the basis of observed facts [p. vi].

The most noticeable departure from other textbooks on the subject lies in the arrangement of the materials, especially in the case of topics usually grouped under learning. Part I, "Psychological Foundations," has chapters on learning (cue reduction), control and mental balance, motivation, and the learner (development, guidance, individual differences). Such topics, however, as curves of learning and forgetting, learning and age, distribution of practice, global versus piecemeal learning, avenue of stimulation, and knowledge of results are found in Part II, "Techniques of Instruction," along with measurement in education and the education of exceptional pupils. Transfer of training is discussed in Part IV, "General Educational Problems," along with psychology and the curriculum, behavior of school children, psychology of the teacher, psychology of educational change, and the place of psychology in education. Part III, "Psychology of School Subjects," has five chapters on the types of learning represented by typewriting, reading, science, arts of expression and appreciation, and education for mental health. Data on curves of work for various kinds of materials are given in the chapter on typewriting.

On the whole, the references are well selected and up to date. Some questionable omissions are as follows: G. M. Ruch, *The Objective or New-Type Examination* and Ruch and Rice, *Specimen Objective Examinations* in the discussion on page 262; bibliographic citation to Pechstein's (not "Peckstein's") investigation on part versus whole learning of pencil mazes; Bassett's study of retention of history in Grades VI, VII, and VIII; Broening, *Developing Appreciation through Teaching Literature*; Healy and Bronner, *Delinquents and Criminals* in the chapter on the behavior of school children; and Woodrow's experiments on transfer, which seem to have more value for *educational psychology* than some of those given, although they may have less value in the *history of psychology*.

After pointing out the unity of action, thought, and feeling, the book gives little aid to the teacher who is attempting to lead her pupils to suitable appreciations in various fields, other than a statement or two to the effect, for example, that the development of skill in reading "in its more mechanical aspects introduces the student to knowledge and invites appreciations and feelings" (p. 367). The discussion and references deal almost exclusively with acquisition of the arts of expression, utilizing much of the best literature on this topic.

On the basis of the evidence presented, the statement that "students of education [in a middle western university] here score very much as do those in the normal schools" (p. 489) should be, "students of education here score very much as do the *graduates* of the normal schools." In discussing "accomplishment ratios," the author shows good judgment by advising their use "with great caution." The real reason for the notable weakness of the achievement-quotient technique has been set forth, however, by Kelley, who has shown that intelligence and achievement batteries have 90 per cent of community of function, so

that "a scant one-tenth of the tests are involved in the measure of difference" and "judgments of individual differences between intelligence and achievement . . . are quite unsound" (Truman Lee Kelley, *Interpretation of Educational Measurements*, p. 21).

As one would expect, Hollingworth's book is well written and readable. In common with other recent textbooks on the subject, it shows the influence of recent trends in psychological thought by including such topics as development, motivation, and mental hygiene.

DEPAUW UNIVERSITY

FOWLER D. BROOKS

A textbook in geography for the elementary grades.—The fourth volume¹ of a new series of textbooks in elementary-school geography, written to conform to the "single-cycle-plus" plan of organization, has recently been published. *Home Folks* and *World Folks*, the beginning books, introduced the formal study of geography by stories and studies of life in typical environments in the United States and foreign lands. *American Lands and Peoples* dealt with the Western Hemisphere, and the present volume describes the countries of the Eastern Hemisphere. A final book of the series will present "a study of world-industries and world-trade with especial reference to the part taken by the United States" (p. iii).

It will be remembered that the author's earlier two-cycle elementary textbooks (*Human Geography: Book One, People and Countries; Book Two, Countries, Regions and Trade*) were developed on a regional-human geography basis in which continental, but not national, integrity was respected. From the purely regional-human organization the author has shifted to the present arrangement emphasizing countries as the essential pattern of the book structure.

The current volume begins with the comparatively simple adjustments made by the Kirghiz to their desert and grassland regions and follows with the related peoples of Arabia, Persia, and the great desert lands of northern Africa. Next a study of the Mediterranean countries precedes that of the nations of northwestern, central, and eastern Europe. Southern and eastern Asia are studied by nations. Africa, south of the Sahara, is given a regional treatment, but Australia and the Pacific Islands are presented as political unities.

Within the units the selection of materials is guided by the dominant adjustments made by the people to their natural environments. However, opportunities to connect pertinent historical or cultural understandings with their geographic settings are by no means neglected, for example, in showing Britain before and after the Industrial Revolution and in setting forth the geographic significance of Siberia as a former land of exile. The larger subject-matter units are broken into smaller divisions, each of which is followed by suggestions of "Things to think about and do." These contain a very great variety of teaching

¹ J. Russell Smith, *Foreign Lands and Peoples*. Philadelphia: John C. Winston Co., 1933. Pp viii+384 \$1.44.

devices devoted to helping the pupil fix in his mind the important understandings and in providing interesting and instructive exercises for extra work.

The author has undoubted ability to tell geographic material in an interesting fashion. By projecting himself frequently into the story, he establishes in the reader a certain confidence and respect for the details presented. Typical illustrations are: "I have seen olive trees growing on south slopes" (p. 66); "One May morning I took the Istanbul express" (p. 46), "One November day I took a walk on the Great Plain of China" (p. 212); or under a picture, "I snapped these cattle while they were grazing along the famous Sea of Galilee" (p. 83). By describing real people in connection with certain of the adjustments made in some of the countries, the author adds to the illusion of reality. The statement, "Mr. MacKenzie is a shepherd I visited him on the Scotch highlands" (p. 103), vouches for the actual details given of the shepherd's work. In a little different way the opening statement, "Michael Cenovitch is a Serbian boy. His home [is] in a village in central Yugoslavia" (p. 175), aids the description of the life of his family in an isolated valley in the Balkan neighborhood. By no means all the material has this personal touch. Much of the narrative is a simple, straightforward presentation of factual context in language well suited to children in the upper grades.

In mechanical makeup the inside of the book is more attractive than the former series. The covers and binding conform to the high standard of the earlier volumes, but the use of fewer lines on a page and the use of larger type (both big advantages) give the pages a less crowded appearance. There are more full two-column illustrations than were included in the older textbook, and all pictures and maps have been placed at the top of the page or in one column so that the text is not broken into sections by pictures extending over into the second column. With few exceptions, the illustrations are well chosen and are entirely new. The reading of physical maps is made easier by the omission of the regional-division lines used in the former series. Political maps are simple and clear. The human-use maps achieve rather well simplicity of design and color, and yet they manage to suggest through clever color symbols something of the appearance of the land itself. This suggestion is most successful, of course, on maps of territories where human adjustment is still in its simplest stages, such as the indication of the northern forest lands by little green pine trees or the desert lands by little orange dots. The many complications of modern industrialism are avoided. The maps keep their symbolic portrayal by relegating type pictures to the margins of the page and indicating their location by numbers on the map.

World political geography is brought up to date in this book. Thus, the Manchurian situation and the problems of the Polish Corridor are set forth in their geographic aspects.

A valuable feature in the treatment of nations is the directing of the pupil's attention into the future. Too often children are prone to consider conditions in any given nation as fixed and not in a state of change upon which the future

surely depends. The author very clearly indicates possible lines of development in the utilization of natural resources, such as "The Future of the Great Desert and the Oases," and often makes summarizing statements of present critical situations leaving the answer for the reader.

Teachers who are looking for straightforward presentation of subject matter, uninterrupted by thought-provoking questions or exercises for the reader to answer as the text is read, will find the book as a whole a valuable contribution to modern literature in elementary-school geography.

RUTH R. WATSON

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A SIGNIFICANT INVESTIGATION OF CRIME IN THE UNITED STATES

The United States Senate subcommittee on crime has published a digest of the testimony offered at its several hearings during 1933. One of the startling revelations of this testimony is the extent and cost of crime. Everyone, of course, realizes something of the menace of crime, but doubtless few are aware that the estimated annual crime bill of this country falls somewhere between eleven and seventeen billion dollars. It is indeed an appalling fact that, according to the most conservative estimates, the cost of crime is at least three times as great as the cost of public elementary and secondary schools combined. Perhaps equally appalling is the youth of criminal offenders. A majority of imprisoned criminals are, according to the testimony before the subcommittee, under the age of twenty-five. Youths of twenty comprise the largest age group; the second largest group is comprised of boys of ages ranging between eighteen and nineteen. Seemingly, most criminal careers have their origins in the early years of childhood.

The following statements are quoted from the Digest of Hearings before the subcommittee. They are not statements of conclusions

by the Senate subcommittee, nor are they to be regarded as approved or disapproved by that body. For the convenience of the reader, a series of propositions are systematically arranged under appropriate headings. The propositions, printed in italics, are formulated in accord with the testimony offered. They are followed by brief quotations taken directly from the testimony.

THE MENACE OF CRIME

1. *Crime has attained gigantic proportions in the United States.*

"The crime situation in this country is so serious that it approaches a major crisis in our history, a crisis which will determine whether the nation is to belong to normal citizens or whether it is to be surrendered completely to gangster rule."—MAJOR HOMER G. SHOCKLEY, Reserve Officers, New York City.

"... Twelve thousand American citizens are being murdered every year in this country, one thousand a month, thirty-three a day, one every forty-five minutes day and night, year in and year out. Every year one hundred thousand are being assaulted, fifty thousand are being robbed, forty thousand homes are being burglarized, five thousand homes have the torch of the incendiary applied to them, . . ."—COLONEL JAMES MOSS.

"According to . . . Dr. Frederick Hoffman, one of the outstanding statisticians of this country, the murder rate in the United States is something like 7.2 for every 100,000 inhabitants. In England and Wales, where they have basically the same Anglo-Saxon institutions that we have here, the murder rate is 0.8. According to the population, nine times as many people are murdered in the United States as in England. In Italy . . . the murder rate per 100,000 is 3.6. There are twice as many people murdered in the United States as in Italy."—COLONEL JAMES MOSS, president, United States Flag Association, New York City.

2. *According to an itemized estimate in the "Manufacturers' Record," crime today costs this country about thirteen billion dollars a year.*

"The figures, as compiled by the New York State Crime Commission, showing that racketeering is costing the people of the United States from twelve to eighteen billion dollars yearly, are, at best, only approximations. These figures are, however, astounding, and it is the old story that, in the final analysis, the 'public pays.' The actual amount of tribute that has been paid to racketeers is very difficult to properly estimate by reason of the fact that the racketeers' victims have been taught the law of the underworld which places silence among the highest of human virtues."—HOWARD W. AMELI, United States Attorney, Eastern District of New York.

"... If the best way to appeal to the public is through its pocket-book, let us consider what this committee, the Wickersham Commission, and perhaps a dozen other surveys have estimated to be the annual cost. Crime today costs this country somewhere between eleven and seventeen billion dollars a year."—

COLONEL ERNEST K. COULTER, general manager of the New York Society for the Prevention of Cruelty to Children and founder of the Big Brother Movement, New York City.

" . . . Kidnaping is but an incident in the larger problem of crime which is by far the most important problem confronting the American people—more important even than reconstruction, high prices, and higher wages. For the burden of crime, a matter of over fifteen billions of dollars, is the largest single item that oppresses us. It reaches into every home through extraordinary costs in government, in insurance, and immediate protective provisions. Its by-products are the enormous budgets for relief of those rendered helpless through its machinations—victims as well as dependents of perpetrators."—LEWIS E. LAWES, warden of Sing Sing Prison, New York City.

3. *The outstanding menace of criminals to society is through organized crime.*

" . . . This appalling crime bill is produced primarily by organized criminal gangs and racketeers, for the total deprivations of isolated criminals—the lone wolves of the underworld—are slight by comparison. . . . The thefts and pocket-pickings now pale into insignificance when compared to the achievements of the racketeers and gangsters. The acts of the latter include a great variety of antisocial acts—bank robberies, train robberies, looting of warehouses, and thefts of securities; the rackets in connection with liquor, dope, food, milk, the building trades, laundries, cleaning and dyeing establishments, garages, taxies, and the like; the use of gangsters in labor troubles, the swindles of the bucket-shop operators; and a host of lesser offenses against life, property, and personal liberty."—HARRY ELMER BARNES, specialist in prisons and methods of treating criminals, New York City.

THE STATUS OF CRIMINALS

4. *Most criminal careers begin in childhood.*

"The great bulk of crime in this country is a youth problem, and its beginnings are nearly always found in misdirected childhood."—CHARLES L. CHUTE, executive director of National Probation Association.

"The real menace in our country today is the alarming increase in the number of our youthful criminals, who have not had or who have disregarded the opportunities for education in the trades, professions, and business. Statements have been made to the effect that a large percentage of our criminals who have been imprisoned are under the age of twenty-five years. Youths of the age of twenty furnish the highest ratio; the next are boys of ages ranging between eighteen and nineteen."—HOWARD W. AMELI, United States Attorney, Eastern District of New York.

"A few years ago we made a study of the total intake of our Court of General Sessions for a year, investigating particularly the three thousand men who were arraigned for the first time for a felony in that court. . . . how many of them do you suppose had in childhood been in the Children's Court? Ninety-two per cent of them had been. . . . What we are destroying in our present system is not only childhood but perhaps the most precious elements in our childhood, the

courage, the daring, the capacity to do great things."—DR. GEORGE KIRCHWEY, dean of New York School of Social Work, New York City.

5. *The average age of our prison population is about twenty-three years.*

"With the problem of youthful offenders between sixteen and twenty-one, we have a condition of chaos that is appalling, viewed from the criminal jurisprudence standpoint. Some writers on criminology have truthfully said, 'Youth is the age of crime.' In fact, the average age of persons accused of crime is said to be about twenty-three years."—JUDGE CORNELIUS F. COLLINS, Court of General Sessions, New York City.

"Let me give you, in a word, what the division of investigation of the United States has discovered in this year of grace, 1933: During the first nine months of this year the arrest records, the finger-print records of 241,000 persons were studied. Those arrested at nineteen years of age made up the largest of all the age groups. It numbered 12,418 individuals, charged with larceny, burglary, robbery, assault, rape, and criminal homicide. Seventeen hundred were fifteen years of age or younger; 20 per cent were under twenty-one, and three out of five were under thirty. These figures cover the entire nation. In New York the percentage of youthful criminals was even greater. At Sing Sing, 50 per cent were under twenty-five years, and 80 per cent are under thirty years."—SENATOR ROYAL S. COPELAND, New York, chairman of Senate Subcommittee on Investigation of So-called "Rackets."

7. *Criminals generally are social misfits.*

"A recent survey completed by the Probation Department of the Court of General Sessions of the county of New York indicates clearly that the majority of offenders against the criminal law in this city are youthful, unmarried, have had but a limited elementary-school education, and have found their recreation on the streets or in resorts of unsavory repute."—IRVING W. HALPERN, chief probation officer of the Court of General Sessions, New York City.

"A report of the Massachusetts penal institutions eight or nine years ago showed that 61 per cent of the youthful criminals of that commonwealth were out of work when they committed the offense for which they were serving sentence. From this report it was also shown that very few adults with trades are in jail, and that 85 per cent of the inmates were found to be vocationally unfit. The youth and the adult without a trade and without a job present a far greater risk to society than one employed at a trade for which he is trained."—F. HOWARD MASON, *Police Journal*, New York City.

"The survey conducted by the Probation Department" (of the county of New York) "revealed that of the 12,744 who were investigated, only 12 per cent were graduates from grammar school. In a great majority of these cases, these offenders had not completed their elementary-school education. . . . Wardens and superintendents of prisons and reformatories relate how amazingly few trained artisans and workers come to their institutions. The prison population of this country represents in the main a vocationally unskilled group of economic incompetents."—IRVING W. HALPERN, chief probation officer of the Court of General Sessions, New York City.

Even a cursory examination of the evidence gathered by the Senate subcommittee makes it obvious that the problem of the youthful criminal constitutes a definite challenge to our educational and social policy. The school, in co-operation with other social agencies, cannot escape the responsibility of scientific determination of those influences in modern industrial society which contribute to criminal behavior. On the basis of scientific evidence, the school will, in all probability, find it necessary to expand its activities and to modify its procedures. Nursery schools and parental education may become necessary instruments for directing personality growth in the early years of childhood. No doubt, greater attention will have to be given to the perplexing problems of vocational adjustment. The curriculum will have to be modified to make it meet the needs and challenge the interests of the new constituency which the schools have been called on to accommodate. Children who are problem cases will have to be subjected to more rigorous remedial treatment, which will, in turn, entail more adequate behavior and achievement records. A more comprehensive understanding of the consequences of failure may result in a modification of classification and promotion practices. These and other procedures the school may find it necessary to adopt in order to contribute more effectively to the development of wholesome behavior patterns.

TWO VIEWS WITH RESPECT TO METHODS OF GRANTING FEDERAL AID TO EDUCATION

There is a growing conviction that the collapse of public education has become so general and so serious in character that the only way out is federal aid. There is, however, a sharp division of opinion with respect to the methods which should be adopted in granting this aid to the several states. Many persons urge strongly the appropriation of federal funds to the several states on the basis of their school population. Such a formula, it is said, grows out of the application of two principles—the principle of equality and the principle of efficiency. The following paragraphs, quoted from an address delivered by William F. Russell, dean of Teachers College, Columbia University, at the Cleveland meeting of the Department of Superintendence, represent the point of view of those who favor an appropriation on a per-pupil basis.

In the early days it was deemed satisfactory to distribute money in proportion to the number of children of school age, to the number enrolled, or to the number in average daily attendance. This was later shown to be absurd, and schemes were devised to distribute funds in proportion to effort and need. This in turn has more recently been succeeded by another series of formulas designed to give equality amongst the various localities. The first step was to secure a measure of the cost of the standard minimum educational program which should be offered to every child. It was then necessary to determine the rate of local taxation which would raise this sum in the richest district. Then each district in the state would be compelled to tax itself at the same rate upon an equalized assessment, and the central authority would automatically provide the balance. This is distribution of school funds according to what is termed the *principle of equality*. According to this plan, one district within a state gets nothing. All the others get something, much or little according as they have heavy or light educational burdens, and in proportion as they are poor or rich.

But there is another principle of aid from central to local authorities which is finding favor. This is termed the *principle of efficiency*. The idea is that a free people cannot rest content with a bare minimum educational program. Education must be moving onward and upward. Certainly every child must have a certain minimum offering, but, unless there is opportunity here and there for something better, for a new development, for a readjustment or advance, educationally we should be in the doldrums. There is a good deal to be said for encouraging "that extra something." Central authorities can well afford to shore up the entire educational structure. . . .

Now the amusing thing about the modern theory of school finance is this: When you grant state aid upon the combination of these two principles, that of equality and that of efficiency, it comes out very close to the old school-population basis. In fact, if the principle of equality and the principle of efficiency were to be applied to the nation as a whole, we should be safe in recommending to Congress that by far the best way to meet the immediate emergency in education would be to grant to each state a sum of \$11 per pupil in average daily attendance for the school year 1932-33, with a slight additional amount for the less densely settled states. No board of strategy would be needed. No discretionary authority would be retained. Minimum programs would be cared for. Schools could be reopened at once. The whole financial structure would be propped up. Local control would be preserved. It would be the best way to meet the emergency.

There are others who vigorously oppose the distribution of federal funds on a pupil-population basis. They advocate the allocation of funds on the basis of need, the need to be determined by qualified administrative authorities in Washington. This point of view is expressed in the following editorial, which appeared in a recent issue of the *National Municipal Review*.

Legislation has been introduced into the present Congress to provide aid for the suffering school system of the country. Conditions are critical in the world of education. On all hands we find schools closed, special departments such as kindergartens eliminated in schools that are open and teachers in vast numbers working without pay. The case for federal aid to the public schools is a strong one.

The present bills provide for the allocation of federal grants or loans by the United States Commissioner of Education on the basis of relative need. So far, so good. There is talk, however, of impending changes to the bills which would force division of the money among the states on the basis of their school population. With this suggestion the *National Municipal Review* takes vigorous issue. If money is to be appropriated for the aid of education in this financial crisis, it should be spent where it is needed to keep the schools open. It would be the height of folly for the same proportion of funds to be allotted to Alabama, where approximately half the schools are still closed despite desperate efforts of a united citizenry to keep them open, and to New York State, which has had relatively little trouble.

There are two other points to be considered here. Unconditional federal assistance would simply result in a freezing of the present wasteful administrative organization of the school systems of many states. If federal money is to be spent, it should not be spent without strings attached, strings which would make possible the elimination of millions of dollars in waste that is due to the small school district in many states.

The second point to bear in mind is that schools are not the only local governmental service to have been hard hit by the depression. Read *Our Starving Libraries*, by R. L. Duffus, to get a dramatic picture of what has been happening to the most important cultural service with which our civilization has provided adults. Or communicate with the American Public Health Association to learn of the abandonment of modern public-health units which prevent disease that would take economic toll far beyond the small expenditure required for prevention. "Public health is purchasable" has been the slogan of this group for many years. It is sad but true that we are no longer buying it. This is not to speak of the other services of local government: there are communities where police protection is breaking down due to a lack of money to meet payrolls and renew or repair equipment. In city after city officers are riding motorcycles no longer fit for their purpose, and firemen are fighting fires with leaky hose and worn-out pumps.

These services, too, require federal consideration. The fact of the matter is that in many sections of the country local government has been breaking down—that the services that supply the very foundation of modern civilization are no longer being rendered—and that something must be done and done quickly to prevent such communities from complete disintegration. All the social and cultural services of local government are important and interdependent—take any one away and the effect may be unthinkable.

It is time someone did some thinking and laid down some principles of federal aid to local governments. As a starter, these might be considered.

1. Money should be allocated on the basis of need.
2. Power should be given to a qualified administrative authority to lay down rules, regulations, and requirements (both as to expenditure of funds and reorganization of existing machinery) on which the grant may be conditioned.
3. All functions of local government should be given consideration in any program of federal aid.

We are in complete agreement with the *National Municipal Review* with respect to the inadvisability of distributing federal funds on the basis of school population. If this method of distribution in earlier days proved to be "absurd," it is difficult to see how it becomes rational by the simple process of giving it a new name or of deriving it by a new formula. Why, one may ask, are the principles of equality and efficiency any more applicable today than they were a generation ago? The fact is that some states need funds more than others, and to these needy states the funds should be given. Moreover, no emergency fund should be administered on the basis of minutely prescribed formulas. In the very nature of things, those who administer an emergency fund should be vested with very broad discretion. To create an emergency fund and at the same time to prescribe specific formulas for its administration is analogous to according to an individual the right to self-defense but prescribing the instrument with which he may defend himself.

WHAT IS OF VALUE IN THE PREDICTION OF VOCATIONAL SUCCESS?

In 1921 the Commonwealth Fund commissioned Professor Edward L. Thorndike, Teachers College, Columbia University, and a group of associates to investigate the possibilities of guidance of children of about the age of fourteen on the basis of items in the children's school records and psychological tests. In 1922 complete school records were secured for 2,225 children to whom were administered tests of intelligence, clerical capacity, and mechanical adroitness. From that date to the present the educational and vocational life-histories of most of these children have been closely followed. Their life-histories afford answers to such questions as the following with respect to each individual: "How long did he con-

tinue his education?" "How much progress did he make?" "How well did he do so far as he went?" "When he became a productive worker, what did he do?" "How well did he like his job?" "How much was he paid in wages?" "How much chance had he to obtain useful training and promotion?"

The results of the investigation to date have been published in a volume entitled *Prediction of Vocational Success*. The summary of results important for the theory and practice of vocational guidance is as follows:

The values of certain items of the school record and test scores for educational prediction and guidance are very great. The grade reached at age 14.0 or 15.0 or 16.0, taken together with the age to which the family plans to keep the boy or girl in school, will predict the grade which the individual will reach at any age with substantial accuracy (a correlation of .90 or higher).

Indirectly, this educational prediction is of vocational significance as well. If an occupation is open only to graduates of higher institutions of learning, such as colleges or professional schools, it may be predicted with very high probability that certain pupils cannot succeed in that occupation, for the very good reason that they cannot even enter it. The vocational counselor may safely assume that a pupil whose expected grade status at age 22.5 (schooling being continuous from the time of the test on) is below Grade XIV (college Sophomore or second-year student in a professional school entered after high-school graduation) can never graduate from a reputable college, law school, medical school, theological school, professional school for teachers, collegiate school of business or journalism, engineering school, or the like. The same holds substantially for expectation below Grade XIII at age 21.5, or below Grade XII at age 20.0.

If the individual has had atypical educational opportunities so that the grade reached at age 14.0 or 15.0 or 16.0 is not a trustworthy measure of his ability to succeed in school in early years, his intelligence-test score may be used in place of his age-grade status for educational predictions, and for vocational predictions where entrance to the vocation depends upon attaining a certain educational level.

The item of grade reached at a given age should be considered whenever a child's further education, or anything depending upon that, is considered. It can be obtained and recorded in a few seconds, and checked by a letter or telephone call to the school. In general, grade reached, scholarship marks, intelligence-test score, or any combination of these, predicts success in school after age 14.0 fairly well.

The value of the items of school record and test scores in predicting vocational success is different according as clerical or office work and mechanical or manual work is in question.

In the case of those persons who worked nine-tenths or more of the time from

age 18.0 to age 22.0 at clerical work, the correlations range from .00 to .26. The most significant item is the test score in clerical intelligence which has average correlations of .26 with earnings at age 20.0 to 22.0, .19 with earnings at age 18.0 to 20.0, .10 with liking for job at age 20.0 to 22.0, and .05 with liking at age 18.0 to 20.0. A difference of one standard deviation or a sixth of the range in test score in the clerical-intelligence test means a probable difference of nearly \$120 per year in earnings for a boy and of over \$110 per year for a girl.

The next most significant item is the test score in clerical activities, with correlations of .22, .14, .08, and .04, respectively. School progress or grade reached at a given age, general intelligence, average scholarship mark, and mechanical adroitness are somewhat less significant. School conduct marks and school attendance have no predictive value. The highest correlation obtainable by combining the information of the school record and tests will not produce a correlation (with earnings at age 20.0 to 22.0) over .30 for the boys or over .40 for the girls. The correlation for earnings at age 18.0 to 20.0 will be lower. The correlations with level of job are lower, and those with interest in the work are still lower.

The correlations which school progress, grade reached, and average scholarship mark show with success at clerical work are almost entirely (perhaps entirely) due to the fact that intelligence is a factor in both school success and success at clerical work. The correlation obtainable from combining Items 3, 4, and 5 or 6 (scores in the tests of clerical intelligence, clerical activities, and mechanical adroitness) is not improved appreciably by including also Items 2, 10, and 12 (grade reached, school progress up to age 14.0, and scholarship mark). Indeed, Item 3 (clerical-intelligence test score) alone is nearly as good as any combination.

Item 3, or the score obtained in the test of very similar nature devised by Dr. O'Rourke, or some other similar test, is then, so far as present knowledge goes, the best convenient means of predicting success as a clerical worker. Its prophetic value is not great. It may correlate as high as .60 with the future possession of the abilities required by clerical work; but concerning what the person will actually earn, what the level of his job will be, and how much he will enjoy the work, its prophecies are only about .26, .21, and .10.

In the case of those persons who worked nine-tenths of the time from age 18.0 to 22.0 at mechanical or manual work, the items of school record and test scores show correlations from .00 to .14. All are then nearly valueless, alone or in combination, as means of forecasting success at mechanical work. Much the same is found in the case of the 305 individuals who worked at jobs requiring a mixture of clerical and mechanical work, or who shifted from one sort of job to the other. Mechanical adroitness and general intelligence are the best indicators; but no combination of the facts at age 14.0 would enable a vocational counselor to foretell much better than he could by a sheer guess how much a boy or girl will earn at mechanical work six or eight years later or how happy he will be at it. High marks for conduct in school and regularity of attendance have zero value as they did for success at clerical work.

In the case of clerical workers, there is evidence that the predictive value of the tests and school record may become greater at later ages than at age 22.0. It is appreciably greater at age 20.0 to 22.0 than at age 18.0 to 20.0. In the case of mechanical workers and others, there is no evidence of this.

If there were perfectly free and rational competition among workers and among employers, so that the former obtained jobs exactly in proportion to the value of their services and the latter obtained quality in employees exactly in proportion to the wages they offered, the correlations of test scores and school record with wages, level, and interest might conceivably be double what we find. Even if this happened, school conduct and school attendance would still be of no value; and none of the facts would have more than slight significance for success at mechanical work.

The higher a pupil's scores are in tests of clerical intelligence, clerical activities, general intelligence, school progress, and scholarship, the more his success at clerical work will surpass his success at mechanical work. Conversely, the lower his scores are in these items, the more advisable it is for him to choose mechanical work. But the differences are not great. A bright and scholarly boy or girl who, because of interest or some special opportunity, wishes to learn a trade or work in a factory, may do so at no great disadvantage to himself. The same is true of dull children unsuccessful in school, who for any good reason are specially desirous of undertaking office work. . . .

One or two children in a hundred from our group became criminals or loafers. These were inferior at age 14.0 in all respects. Here for the first time we find significance in the school records of conduct and attendance. . . .

Infrequency of change of employer cannot be trusted as evidence of vocational success. Its correlations with earnings, level of job, and liking for job were only .15, .08, and .09 at age 20.0 to 22.0; and only .11, .04, and .09 at age 18.0 to 20.0. Those who change their employers oftenest earn almost as much and like their work about as much as those who remain with the same employer through the entire four years.

Our records enable us to tell what financial loss, if any, a boy or girl suffers who does "white-collar" work rather than factory or trade work. Contrary to a common opinion, the annual earnings are actually greater for the white-collar workers in our groups. But they are abler; at least they were at age 14.0. Correcting for this, we find that at age 20.0 to 22.0, a boy may expect a loss of about 2 per cent, and that a girl may expect a gain of about 15 per cent from choosing clerical rather than mechanical work. If the rises in earnings during the age period 22.0 to 24.0 show the same trends as those occurring from 18.0 to 22.0, clerical work will then be financially superior for boys and will increase its advantage for girls. Apparently the only persons who make any larger financial gain by choosing mechanical work are the very dull, especially the very dull boys.

Parental status had little influence upon vocational success to date, but will probably show more when the influence of beginning work early has faded out and when the college group can be included. The children of clergymen, lawyers,

physicians, and the like are more successful in school and in the tests, and stay longer in school than the children of unskilled laborers, but earn no more at age 18.0 to 22.0. They have positions of a little higher level and like their jobs a little better.

There is much indirect evidence that employers do not fit wages to services very accurately in the case of these young workers. Direct evidence also appears in the fact that they pay substantial premiums for mere size in the case of clerical workers! Employers certainly can profit greatly by using tests of intelligence, clerical capacity, and mechanical adroitness in the selection of employees. Even if the correlations for tests at the time of employment should be as low as those for tests at age 14.0, and even if the correlations with services rendered should be as low as those with wages received (they probably will be much higher), test scores will be much better than prejudices and superstitions.

OUTLINES FOR ADULT-EDUCATION COURSES

The city of Evansville, Indiana, is carrying into effect an extensive program of adult education. For the purpose of facilitating the work being done, a brief outline has been prepared for each of the courses offered. These outlines have been published in a bulletin bearing the title *Emergency Education Program: Project No. 33*. Courses are being offered in more than thirty subjects, among which are the following: arithmetic, accounting, child psychology, citizenship, dramatics, elementary economics, home management, home hygiene and care of the sick, literature, and public speaking. This bulletin will, no doubt, prove suggestive to teachers in other communities who may be interested in organizing instructional materials at the adult level.

A NATION-WIDE EFFORT TO REFINE AMERICAN SPEECH

In order to correct the inelegant speech manners prevalent in many phases of American life, a number of distinguished scholars have organized the International Committee on American Speech. The committee will undertake to make a practical speech codex available to all Americans. It has already established an adequately housed, equipped, and staffed experimental laboratory called the Speech Center of New York, which, together with the national network of associated groups now being set up in the cities and towns throughout the country, will act as its clearing-house. The following paragraphs quoted from a release of the committee will indicate the nature of the service which it is attempting to render.

The Speech Center will express itself through all the arts of speech, together with all other subjects touching on speech. It will thus have to begin with the first simple rudiments of everyday speaking and from this starting point move forward through public speaking, radio broadcasting, and theater and talking-picture acting. Here, in short, experiments will be carried on in a school for laymen, amateurs, semi-professionals, and artists—both child and adult.

While the work will thus have, from the very outset, a focal point in the Speech Center, the committee does not intend to rest there and allow the movement to proceed under its own initial momentum. On the contrary, the committee realizes that its biggest job is, and always will be, out in the field. This missionary aspect of the total plan divides itself into several distinct parts.

The first part of the job is thoroughly to prepare students of the Speech Center who show special aptitude as observers to go out into the highways and byways to discover exactly what is wrong with American speech and to make the American public more constructively speech-conscious.

All the flagrant sinners against good American speech, from the supercilious radio announcers through to the mooring grandmamas, will have to be put under the microscope (or, should one say, the microphone?) in an endeavor to determine just what their trouble is. Thousands of specimens of the American language as it is actually spoken will be recorded under all kinds of conditions.

The specimens and data thus assembled will have to be correlated and studied at the committee's laboratory. Thus it is hoped that, for the first time in American history, a satisfactory standard for American speech can be evolved and established. That is the second part of the job.

The third part of the job will be to train selected men and women to carry these principles of good speech back into the field for practical application wherever Americans speak—into factories, stores, and offices, into schools, churches, theaters, and halls, and right into the homes, until ultimately it is hoped that the committee's efforts will have wrought a mother-tongue which will delight the ear in every phase of social, business, professional, and public activity throughout the United States.

A HANDBOOK FOR THE TEACHING OF DENTAL HEALTH IN THE ELEMENTARY SCHOOL

A recently published bulletin of the University of Iowa bears the title *A Handbook of Dental Health Education for the Elementary School Teacher*. The purpose of the handbook is to make available for teachers and pupils an authoritative and effective program for building good teeth. The scientific accuracy and practicability of the teeth-building program outlined is sponsored by Dr. Charles L. Drain and his co-workers in the Bureau of Dental Hygiene of the University of Iowa. The material in the booklet represents an adap-

tation of the scientific findings of Dr. Drain and his staff to the level of understanding of young children. This adaptation is the result of painstaking experimentation carried on by Miss Anna M. Wiecking under the joint supervision of the College of Dentistry and the College of Education.

The first part of the booklet is devoted to a presentation of the facts of dental health. Special attention is given to the factors in an adequate diet for good teeth. Detailed diet programs are outlined for children from sixteen months to sixteen years of age. Part II is devoted to the problems of teaching dental health in Grades I-VI. The materials of instruction are presented in problem and discussion form.

In the Foreword to the booklet Professor Ernest Horn says: "No more important publication has been made available, in my judgment, to the children, teachers, and parents of this state and of the country at large." It is to be hoped that both teachers and parents will avail themselves of the uses to which the booklet can profitably be put.

AN ASSOCIATION TO PROMOTE CO-OPERATION BETWEEN COLLEGE PLACEMENT BUREAUS

The directors of placement bureaus in twenty colleges and universities in Illinois recently formed an organization to be known as the Teacher Placement Association of Illinois. It is the purpose of this association to establish standards and methods of co-operation between the members of the association in the placement of teachers. The association has adopted a code of ethics, based on professional and ethical principles, which will govern its members in making contacts with school administrators and in recommending candidates. The association is to be commended for its efforts to bring candidates for teaching positions and school officials into proper relations. School administrators will, no doubt, find it to their advantage to co-operate with the association. Such co-operation should prove especially helpful in eliminating the excessively large number of candidates for positions when vacancies occur. J. E. Thomas, of Illinois Wesleyan University, Bloomington, Illinois, is secretary of the association, and information concerning it may be secured from him.

A COMPREHENSIVE PROGRAM OF CITIZENSHIP EDUCATION

As reported in the March issue of the *Elementary School Journal*, the Citizens League of Cleveland, through its Schools Committee, recently made a survey of citizenship training in that city. One of the recommendations of this committee was that the Board of Education appoint a social-studies committee charged with the duty of formulating a comprehensive program of citizenship education. This recommendation is being carried into effect by the board. The following resolution of the board creating a committee on citizenship training indicates something of the nature of the work which is being undertaken.

Resolved, by the Board of Education, of the Cleveland school district, that the president of the board, in consultation with the superintendent of schools and the chairman of the educational committee of the board, be requested to appoint a committee on "citizenship training" of eighteen members consisting of an equal number of members of the teaching staff of the Cleveland public schools and of citizens interested in public-school affairs, which will make a thorough study of this subject, ascertain what other cities are doing in this direction, arrange conferences for the discussion of all phases of citizenship training and social-studies courses, and submit to the Board of Education at its earliest convenience, and within the year, a full report containing a suggested course of social studies for all grades of the public schools, a program by which the extra-curriculum activities represented by student organizations can be correlated with the social-studies courses, a plan by which the facilities of public offices and community organizations can be more fully utilized in citizenship-training work, and methods by which citizenship ideals may be developed and citizenship interest may be stimulated in the pupils going out from the public school into the public life of Cleveland.

The Board of Education and the citizens of Cleveland are to be commended for the highly intelligent manner in which they are attempting to insure more effective citizenship education. It is to be hoped that other communities will follow Cleveland's example.

MEASURING READING READINESS

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The overwhelming number of failures in the first grade have made it extremely desirable to be able to predict the probable success of pupils in first-grade reading. Numerous research studies on this problem made by city research departments have been published in periodicals or in mimeographed form. It is the purpose of this article to describe briefly two attempts to predict how well a child will learn to read in the first grade. One attempt made use of certain tests which measure the ability to recognize similarities and differences in letter and word forms. The other attempt made use of kindergarten teachers' ratings of pupils on certain traits which seem to be related to reading readiness.

THE READING-READINESS TEST

The need of a reading-readiness test.—All first-grade teachers need to know which pupils are ready to learn to read when they enter the grade. The first grade is the crucial point in the child's education, and no one knows the amount of damage to mental health and personality development caused by the improper handling of pupils at this point. When the teacher has a measure of the pupil's ability to learn to read, the pupil can be given the type of work which he needs and can do.

Another need which the test fulfils is the need for a measure the results of which can easily be explained to parents. It is impossible, or certainly undesirable, to tell parents that their child does not have intelligence enough to begin reading, but it is easy to say that the results of a reading-readiness test indicate that the child is not

ready to read and would be much happier if placed in a junior first grade, preprimer, or transition group. Being able to justify the educational handling of the pupil to the parents is worth a great deal.

Development of a reading-readiness test.—An article by Nila Banton Smith¹ led one of the writers to believe that it might be possible to construct a test using the matching technique which could be administered to groups. This supposition led to the construction of eight tests of varying degrees of difficulty.

These eight tests were administered to a number of first-grade pupils in seven schools during the first week of the term. At the end of the first semester these same pupils were given the Lee-Clark Reading Test, Primer, Forms A and B. This reading test was especially constructed to cover the primer adopted by the state of California. Correlations were calculated between the scores on each of the eight tests given at the beginning of the semester and the total reading score on the two forms of the reading test. Intercorrelations between the eight tests were also calculated. The four tests which gave the best multiple correlation with the reading test were selected for further investigation.

The four tests finally selected were the easiest of the eight originally used. Two of the tests chosen involve matching, and two are termed "cross-out" tests. Samples of the tests are as follows:

TEST 1				TEST 2	
X		S		s	g
S		G		m	u
L		X		u	s
G		L		g	m
TEST 3				TEST 4	
X	X	R	X	am	amd
S	A	S	S	fun	fuñ
L	L	L	w	get	getl
g	G	M	g	cake	cañke

In Tests 1 and 2 the pupil is to draw lines connecting the letters which are alike. Test 3 requires the pupil to cross out the letter "that does not belong with the others." In Test 4 the pupil is told: "Look at these letters [pointing to 'am'], then look at these

¹ Nila Banton Smith, "Matching Ability as a Factor in First Grade Reading," *Journal of Educational Psychology*, XIX (November, 1928), 560-71

['amd']. Can you find the letter that does not belong here? Draw a line through it like this." The administration of the test is so simple that teachers with the slightest experience in testing can give it. Other teachers can be quickly trained. One difficulty in most primary tests is to show the pupils how to do the sample exercises. In order that the explanations may be easily given to the pupils, each package of tests includes sheets on which the samples are printed in large type. The teacher can mark on these large sheets, which are reproductions of the samples from the pupil's test folder. After the large samples have served their purpose, they can be thrown away. Enough samples are provided to enable the teacher to test small groups of twelve to thirteen pupils.

Validation of the test.—The four tests which were finally selected were published in an experimental edition as the Lee-Clark Reading Readiness Test. Nearly two thousand tests of the experimental edition were used in Alhambra, Burbank, Los Angeles, and Oakland, California, and in Trinidad, Colorado. Following the suggestions of the elementary counselors of the city schools of Los Angeles, the sample sheets were added, and the form of the test was somewhat simplified. For validation of the test the following data were needed for each pupil: (1) score on the Lee-Clark Reading Readiness Test given at the beginning of the year, (2) score on an intelligence test given at the beginning of the year, (3) score on a reading test given at the end of the first or the second semester of the first grade, and (4) knowledge of whether the pupil passed or failed in the first grade.

Correlations are given in Table I for those pupils for whom complete data were obtainable. The correlation of the Lee-Clark Reading Readiness Test with success in reading, as measured by the Lee-Clark Primer test, is .49, while the correlation of success in reading with the mental age on the Detroit First-Grade Intelligence Test is only .40. The correlation of the reading-readiness test with success in reading, as measured by the Gates test, is .54, while the correlation of the Pintner-Cunningham intelligence test with success in reading is only .39. The reading-readiness test appears to be superior to an intelligence test in predicting success in first-grade reading. It should be noted that the same intelligence test was not used in

making these comparisons; the two most widely used first-grade intelligence tests were given.

Ordinarily, these correlations would not be considered high enough to be of value, but they seem to be about as good as can be obtained for a group test at this level. The reason for the low correlations can easily be explained. Step into any first-grade classroom on the second day of school and give the little ones any kind of a pencil-and-paper test. What happens? Most of the children understand what is wanted and try to do it, but there are others—the

TABLE I
CORRELATIONS ILLUSTRATING THE PREDICTIVE VALUE OF THE
LEE-CLARK READING READINESS TEST

Factors Correlated	Number of Cases	Correlation
Lee-Clark Reading Readiness Test and Lee-Clark Reading Test, Primer	164	.49
Mental age on Detroit First-Grade Intelligence Test and Lee-Clark Reading Test, Primer	164	.40
Intelligence quotient on Detroit First-Grade Intelligence Test and Lee-Clark Reading Test, Primer	164	.41
Lee-Clark Reading Readiness Test and Gates Silent Reading Tests, Types 1, 2, and 3	100	.54
Pintner-Cunningham Primary Mental Test and Gates Silent Reading Tests, Types 1, 2, and 3	100	.39
Lee-Clark Reading Readiness Test and Lee-Clark Reading Test, Primer (with group of pupils all of whom had kindergarten experience)	92	.68

little boy who is interested in looking out the window, the girl who begins to cry, another little girl who uses her pencil to draw pictures. The situation is all too familiar to those who have tried it. Later in the term these same children may "find themselves" and become successful readers. Because of this difficulty in administration, the scores on this first test were low. This common condition means that some of the pupils made much lower scores on the test than their ability would warrant. Fortunately, the reverse is not true; pupils did not do better than their ability would warrant. The conclusion is that high scores on the reading-readiness test indicate rather definitely that the pupil should be able to learn to read. Low scores may or may not indicate that the pupil is not ready to learn to read.

Reliability of the test.—The reliability of the Lee-Clark Reading Readiness Test¹ was computed by correlating the odd and the even scores. The coefficient of correlation thus obtained was .94 on 166 cases. Corrected by the Spearman-Brown formula, the reliability was found to be .97. One reason for these unusually high correlations is probably the fact that the items within each test are arranged according to difficulty.

Interpretation of the test scores.—Much caution should be used in interpreting the results from an aptitude test, such as this reading-readiness test. There are many factors which differ in every situa-

TABLE II
PERCENTAGE OF PUPILS AT EACH SCORE LEVEL OF THE LEE-CLARK READING READINESS TEST WHO FAILED IN FIRST GRADE*

Score	Percentage of Pupils Failing	Score	Percentage of Pupils Failing
48-50.....	0	20-23.....	22
44-47.....	0	16-19.....	30
40-43.....	0	12-15.....	40
36-39.....	3	8-11.....	60
32-35.....	5	4-7.....	75
28-31.....	10	0-3.....	90
24-27.....	14		

*Based on 472 cases.

tion, and it is difficult to make any statements which will hold in all cases. The efficiency of the teachers, the percentages of failure, the teaching methods, and the types of learning activities—all influence the extent to which a prediction of reading achievement can be made. Each school should make a study of the results for its particular situation. The interpretation of the test scores which follow are based on a careful study of the data from the school systems mentioned.

The probable success of pupils in the low-first grade is indicated in Table II. These percentages indicate the probable percentage of the pupils scoring at each level of the test who will fail in the low-first

¹ The test was developed by J. M. Lee and W. W. Clark and is published in its final edition by the Southern California School Book Depository, 1025 North Highland Avenue, Hollywood, California.

grade. These figures were derived from data on nearly five hundred pupils in two systems, in which the average percentage of failures in the low-first grade was 14. On the basis of these results, the writers feel safe in stating: (1) Pupils scoring below 12 on the reading-readiness test will probably fail and should either be grouped together in the reading period for pre-reading activities or be placed immediately in a junior first grade or transition group. (2) Pupils scoring between 12 and 22 on the test are likely to fail (two pupils failing out of five). These pupils should be grouped together and carefully observed by the teacher for the first six weeks. It should then be possible for the teacher to tell which of these pupils are ready to learn to read. (3) Pupils scoring above 22 will in all probability succeed in reading.

The uses of the reading-readiness test.—Several adjustments are possible when the teacher has a knowledge of test results:

1. If the school is large enough, the pupils may be separated into two classes. All pupils who are ready to read may be given the usual first-grade program. The doubtful cases may be given a program of work which will prepare them for reading.¹

2. In small schools in which separate classes are not possible, the pupils may be grouped in one room. In such a situation three groups are advisable: one composed of pupils with high scores on the reading-readiness test, a second of pupils whose scores indicate that success in reading is somewhat doubtful, and a third of pupils who will probably not succeed in reading.

3. If there are only a few pupils in the class, the correct type of individual work can be provided for them.

4. No matter what type of educational program is attempted, the teacher should have information concerning the pupil's probable ability in learning to read. This information is especially desirable if a unit-of-work or activity type of program is followed. Even though a school does not desire to group its pupils, information on the pupils' reading readiness is absolutely necessary if each pupil is to receive proper educational treatment.

¹ An outline of such a course is given in *Teachers' Guide to Child Development*, pp. 469-516. Developed under the direction of California Curriculum Commission. Sacramento, California: State Department of Education, 1930.

PREDICTION BY MEANS OF A RATING SCALE

Development of a rating scale.—A second method of predicting reading readiness is through the ratings of kindergarten teachers. It has long been thought that kindergarten teachers are able to recognize those qualities, abilities, potentialities, and interests which have much to do with a pupil's success in learning to read. Many items have been suggested for rating, and several scales have been compiled and tried out. As far as can be ascertained, none has been extremely successful.

Three criteria were used in the construction of the present scale: (1) An item must have been recommended as of value by other investigators. (2) It must seek to rate the social and cultural background of the child. (3) It must attempt a rating of those non-intellectual factors of the child's personality which would seem to affect his school work. Twenty items were selected and stated in the form of questions. Five answers were given to each question, representing five positions on the scale from one extreme to the other. The kindergarten teacher checked the most applicable response on each item. For example, one item read as follows:

Is his attention steady?

1. Never settles down to one thing.
2. Flighty, finds it difficult to complete a task.
3. Completes work with fair degree of attention.
4. Becomes absorbed in a task.
5. Able to hold attention for a long period.

Validation of the rating scale.—Ratings were obtained on this scale for the pupils in Burbank who were completing kindergarten. At the beginning of the following school year these pupils were given the Lee-Clark Reading Readiness Test and at the end of the first semester the Lee-Clark Reading Test, Primer. Each item of the scale was studied to determine whether it distinguished between the pupils obtaining the lowest and the highest reading-achievement scores. The twenty items, ranked according to the degree with which they discriminated between the best and the poorest readers, are given in Table III. Ten of the items showing rather definite differentiation were retained.

The correlation of the total scores on the selected items (first ten) with success in reading was .45. For this same group of ninety-two pupils, all of whom had had kindergarten experience, the correlation between the reading-readiness test and success in reading was .68. The intercorrelation of the rating scale and the test was .52. The predictive ability of the scale, although as high or higher than

TABLE III
TWENTY ITEMS IN A RATING SCALE FOR USE OF KINDERGARTEN TEACHERS RANKED ACCORDING TO DEGREE OF DISCRIMINATION BETWEEN PUPILS WHO IN FIRST GRADE WERE THE BEST AND THE POOREST READERS

Item	Rank
What is the apparent home background of the pupil? . .	1
Is his physical vigor and efficiency good?	2
Does he have books for use at home?	3
Is his attention steady?	4½
Does he show interest in signs, labels, and books?	4½
Is he ready to learn to read?	7
Does he think out things for himself?	7
Is much encouragement needed for effective work? . . .	7
Does he follow directions well?	9
Has he a good vocabulary?	10½
Is he critical of his own work and responses?	10½
Is he interested in stories that are told?	13½
Does he get along with other children?	13½
Does he work on to completion at an assigned task? . .	13½
Does he tell stories well?	13½
Is he able to select material and ideas and adapt them to his use?	16
Is he a discipline problem?	17
To which reaction type does he belong?	18
Is he bashful or shy?	19
Is his health good?	20

that of the average intelligence test, was much lower than that of the reading-readiness test and raised the multiple correlation of the two less than .01.

In addition to filling out the rating scale, the kindergarten teachers were asked to rank their pupils in the order in which they believed the pupils would succeed in reading in the following year. The predictive accuracy of these rankings, as well as of the ratings and the reading-readiness test, was studied for each teacher separately.

The correlations were obtained by the rank-difference method, with the results given in Table IV.

Variation between schools in value of predictive factors.—The significant point here, and probably the most important point in all such rating or ranking, is the vast difference in the predictive ability of various teachers. Some teachers' understanding of the abilities and limitations of their pupils far surpasses anything that can be obtained from any test or group of tests. On the other hand, some

TABLE IV

CORRELATIONS BETWEEN PUPILS' SUCCESS IN FIRST-GRADE READING AND KINDERGARTEN TEACHERS' RATINGS ON RATING SCALE, KINDERGARTEN TEACHERS' RANKINGS ON READING ABILITY, AND SCORES ON READING-READINESS TEST

FACTORS CORRELATED	CORRELATION IN SCHOOL						
	A (15)*	B (13)	C (16)	D (9)	E (11)	F (15)	G (13)
Success in reading and rating scale. . . .	-.17	.65	.88	.59	.74	.40	.13
Success in reading and teachers' rankings	.28	.63	.11	.88	.79	.34	.10
Success in reading and reading-readiness test. . . . .	.77	.66	.58	.56	.55	.40	.29
Reading-readiness test and rating scale.	.01	.63	.63	.16	.87	.46	.14
Reading-readiness test and teachers' rankings. . . . .	.23	.68	.00	.16	.78	.38	.32
Rating scale and teachers' rankings. . . .	.75	.98	.10	.80	.95	.96	.96

*The numbers in parentheses represent the number of pupils.

teachers seem to know little or nothing about their pupils' potentialities. Some teachers' ratings seem to be helped by the use of a scale, while in other cases a scale appears to be a handicap.

The correlations between success in reading and the Lee-Clark Reading Readiness Test shown in Table IV help in the interpretation of the other data. Studies of prediction involving aptitude tests seem to indicate that, the better the teaching, the more closely do the predicted and the actual results agree. Variations in the correlations from .29 to .77, as are shown for Schools G and A, cannot have occurred by chance when the reliability of the test is as high as it is. The type of pupil population varied little. Consequently, the teaching factor seems the most important and logical factor as the cause of

the variation. Undoubtedly, other factors also played a part. With these considerations in mind, some interesting interpretations can be made from the table.

In School A the teaching appears to have been very good, as is shown by the correlation between success in reading and score on the reading-readiness test (.77), but the kindergarten teacher was unable to recognize the abilities or potentialities of her pupils. Her unassisted guess, shown by the correlation between her rankings and the pupils' success in reading (.28), was somewhat better than her estimate on the rating scale (correlation of $-.17$), but neither was of much value.

In the other school where extremely invalid ratings were found (.13 and .10 in School G), apparently the poorest teaching also took place, as shown by the correlation of .29 between success in reading and score on the reading-readiness test. From the first three correlations for School G it is impossible to guess whether the kindergarten teacher was unable to rate her pupils or whether the low correlations resulted from the poor teaching. However, the correlation between the reading-readiness test and the teacher's rating scale (.14) and the correlation between the reading-readiness test and the teacher's rankings (.32) are no more significant. Since the teacher was rating neither what the test measures nor the pupils' success, the ratings were of little value.

In School D the correlations between the reading-readiness test and the rating scale (.16) and between the reading-readiness test and the teacher's rankings (.16) are low, but the predictive ability of those ratings is high, as shown by the correlations between the ratings and success in reading (.59 and .88). Obviously, the teacher was not rating the same thing that the test measures, but, since her ratings predicted success with considerable accuracy, they were very valuable.

The ratings of kindergarten teachers need to be studied over a period of time to discover the consistency of their ability to rate. If they are able to rate with considerable accuracy and high consistency, their ratings should probably be used for grouping in preference to other means. In the case of pupils coming from kindergarten teachers who are not successful in rating and in the case of pupils

with no kindergarten experience, the best prediction will probably be obtained by the use of the Lee-Clark Reading Readiness Test alone.

SUMMARY

One of the most pressing problems of the elementary school is to be able to determine when children are ready to read. This article discusses two attempts to measure the reading readiness of children entering first grade. One method made use of the Lee-Clark Reading Readiness Test, while the second method attempted to utilize kindergarten teachers' ratings.

1. The reading-readiness test consists of four tests selected from a group of eight by means of the multiple-correlation technique.
2. The test predicted scores on reading tests, which were given at the end of the first semester, better than did two intelligence tests.
3. Pupils scoring above a critical score are ready to learn to read.
4. Low scores do not necessarily indicate that a pupil is not ready to learn to read.
5. It appears that low scores made on tests given during the first week a child is in school may be the result of a number of factors other than inferior ability.
6. The score of a child who has had kindergarten experience gives a better prediction of ability to learn to read than the score of a child who has not had such experience.
7. The test has the extremely high reliability of .97.
8. On the hypothesis that kindergarten teachers can recognize when children are ready to learn to read, a rating scale was constructed. Teachers were required to rate each child leaving kindergarten on the twenty-item rating scale.
9. The ten most accurate items of the scale did not predict reading success as well as did the reading-readiness test.
10. The kindergarten teachers varied widely in their ability to predict the pupils' achievement in reading, either by means of a rating scale or by means of a ranking of the pupils.
11. The efficiency of the kindergarten teachers' ratings were affected by the teaching in the first grade.
12. The ratings of kindergarten teachers need to be studied over a period of time to determine whether the teachers' ability to rate is consistent.

THE PLACE OF HISTORY IN A PROGRAM OF INTEGRATION

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Twelve years ago at a conference on desirable adjustments between history and the other social sciences in elementary and secondary schools held in St. Louis on the occasion of the meeting of the American Historical Association, the writer pointed out that there were then in existence three general types of adjustments, namely, independent-parallel, alternating, and combined.¹ The first two of these types recognized the existence of subjects as subjects, while the third type attempted to disregard subjects as such and turned up a product which subsequently became known as a unified course in the social sciences. Since about 1926 this unified course has received considerable publicity and has been looked on in some quarters as a very desirable solution of the problem of an oversupply of individual subjects in the curriculum.

Before the unified course could sweep the country as some of its ardent supporters expected it to do, along came a so-called "new proposal," which was christened "integration." Because of the fact that the recent concrete proposal for integrating, not only the social sciences, but other subjects outside this field as well, has many of the earmarks of concentration as preached and practiced by the Herbartians during their reign in this country, it is necessary to use the expression "so-called 'new proposal'" when speaking of the present movement toward the integration of some of the traditional subjects taught in the elementary and the secondary schools. Just as history was one of the important centers of concentration among the Herbartians, likewise it is playing a similar rôle in present-day programs of integration. Thus, one no longer, as in 1921, need bother merely

¹ R. M. Tryon, "Desirable Adjustments between History and the Other Social Studies in Elementary and Secondary Schools," *Historical Outlook*, XIII (March, 1922), 78-82.

with desirable adjustments between history and the other social sciences in the school, for the simple reason that the range of the adjustment has been extended to all subjects in the curriculum. If we may judge from some of the integrating programs which have recently been set up, it now seems proper to discuss desirable adjustments between history and all the other subjects in the curriculum instead of limiting the discussion, as was done in 1921, to the adjustments between history and closely related subjects.

Before systematic consideration is given to the rôle that history is being called on to play in present-day programs of integration, it seems desirable to examine briefly the difference or the differences between integration and unification on the one hand and integration and fusion on the other. It is necessary to inject the term "fusion" here because of the contention of its supporters, namely, that fusion and unification are not one and the same thing, even though they have been so considered by many users of the two terms. If these are not two words carrying the same meaning, it is proper to put the question: "How do they differ and how does each, in turn, differ from integration?" Speaking in broad terms, it seems correct to say that the chief difference in the three concepts lies in the general plan of organizing the materials of instruction which each predicates. Those who favor unification hold that the materials of instruction should be organized without any regard to specific subjects, such as history and civics. Some of the fusionists would eliminate specific subjects, and some would not. Those who advocate integration seem to have no desire entirely to eliminate special subjects. In fact, to them special subjects and special teachers of these subjects are essentials in a program of integration, especially at the senior high school level. Stated somewhat differently, the aim of integration is to find points of contact between different fields of knowledge and to place heavy emphasis on these points in organizing and presenting subject matter. The aim of fusion is to teach at least three of the social sciences in their natural relationships, geography being used to furnish the stage, history the action, and civics the organization. The aim of unification is to present a synthesis of knowledge which shall compose the entire curriculum. Thus, it is seen that school subjects may keep their identity in two of these schemes, while

subjects entirely disappear in the other plan—a fact which makes a discussion of the place of history in a program of integration seem entirely apropos.

Before consideration is given to a few concrete examples of integration and the rôle which history plays in these plans, it seems worth while to inject a brief treatment of the integration movement as such. As now conceived, the movement is difficult to bound both in time and in meaning. In some respects the integration movement in this country dates back to the Herbartians, and in other respects it originated only yesterday. The fact that the movement as now conceived and practiced is closely related to the doctrine of correlation and concentration advocated and practiced by Charles De Garmo, W. T. Harris, and Francis W. Parker makes the determination of an exact date of origin very difficult. Furthermore, the integration movement's close kin to the activity and the project or problem curriculum in the elementary grades, to the general courses in the junior high school, and to the orientation and the introductory general courses in the college makes the course of its development as an objective entity difficult to trace. As the movement progresses during the next few years, it may be able to extricate itself from the handicap of its many inherited characteristics and emerge as a really new movement in the field of education.

While it is true that the birth year of the integration movement in this country is difficult to determine, because of the facts cited in the preceding paragraph, it may be that, after the history of the movement has been thoroughly investigated, the school year 1907-8 will be found to be the year in which the first experiment in integration, as generally conceived today, was conducted. This significant experiment seems to have been unheralded and its merits unsung. It was conducted in the elementary school connected with the University of Missouri. A young aspirant for the Master's degree in education originated and carried it through. It is highly doubtful that there is a better example extant of what is now termed integration than this experiment conducted during the school year 1907-8 by Ernest Horn, now a professor in the University of Iowa, while in pursuit of a Master's degree in education from the University of Missouri.

History had a place of supreme importance in Professor Horn's experiment. The casual observer of the work of the class during the progress of the experiment would no doubt have concluded that only one subject was being pursued by the pupils, namely, United States history. However, should the observer have watched the work over a period of several days, he would have discovered that the subjects of music, poetry, prose literature, arithmetic, spelling, writing, composition, geography, and physiology received due consideration, each being taught in conjunction with United States history. While these subjects did not entirely lose their identity in the experiment, their content was almost wholly dictated by the subject matter of the course in United States history. Had Horn's thesis been published when it was completed in 1908, the integration movement would probably have been as far advanced by 1915 as it is at the present time. Certainly, no recent publications of similar experiments exhibit any advance over the experiment conducted as early as the school year 1907-8 by a man who subsequently became a leader in his chosen field.

Because of space limitations further consideration of the background of the integration movement must be sacrificed to the presentation of other aspects of the subject, chief among these being some present-day examples of integration and the rôle that history plays in them. Consideration will first be given to a recent effort to integrate a junior high school program.

For the past three years the faculty of the John Burroughs School, St. Louis, Missouri, has been experimenting with an integrated program. The use made of history in this program is by no means meager. For example, the general theme of the course, on which pupils spend about one-third of their time, is "The Background of Modern Civilization." In the organization of the course for teaching purposes the following units of understanding appear: "How the Earth Began and Grew," "The Coming of Man," "European Life in the Days before the Machine," "The Modern World Begins," "A New World Is Settled," "The Machine Age Begins," "New Transportation Devices," and "The Westward Movement." While these are not all the units which furnish centers of integration in the John

Burroughs School, the list is sufficient to indicate the amount of historical material involved.

When the foregoing units themselves are organized for teaching purposes, much use is made of historical continuity. For example, in the unit "The Spread of Civilization," the following unit elements appear: (1) "Man's Urge To Explore," (2) "Aids to Exploration," (3) "The Phoenicians as Spreaders of Civilization," (4) "Traders between Asia and Europe," and (5) "The Viking Sailors." Such an organization, it will be observed, is about what one would expect to be used by a teacher of history who had never heard of a program of integration. For this reason, one is justified in concluding that history has not suffered in this particular integration scheme.

The foregoing comments on the experiment in the John Burroughs School do not make clear how integration is actually attained. How integration is secured may be explained by reference to the manner of handling the unit "European Life in the Days before the Machine." During the time budgeted to this unit the teacher of English directs a study of *medieval* ballads, romances, and manuscripts. A teacher of drama bases the work in his subject on mystery and miracle plays. The art teacher introduces Gothic art; the practical-arts teacher leads the pupils in a study of work-life in the pre-machine days; the science teacher emphasizes the work of the medieval alchemists; the music teacher emphasizes medieval music; and the history teacher contributes to a better understanding of *medieval* schools as well as life in general. Thus, it may be seen that several departments are concerned in the work of integrating the subject matter suggested by the unit.¹

It should be pointed out in passing that anyone interested in an enriched course in history and at the same time interested in the best provisions possible for the training of youth hails with joy the set-up with which the teachers in the John Burroughs School are experimenting. The course as outlined seems to be an excellent one in what some are now calling "World-History," "World-Civilization," or "Western Civilization." The virtue of the course seems to be in

¹ Gerald H. V. Melone, "Can Junior-High-School Learning Experiences Be Unified?" *Junior-Senior High School Clearing House*, VII (March, 1933), 404-9.

its integrating qualities. If the teachers of the world-history courses which now exist in the schools were adequately prepared to take care of all the implications of the subject, there would be little need for teachers of the strictly cultural aspects of literature, art, music, and the like. Application of 100 per cent of all the contentions of the so-called "new historians" would leave little content for the teachers of other liberalizing subjects to teach. When history is made to include art, architecture, religion, health, government, literature, industry, education, science, recreation—in fact, every conceivable phase of a people's life—there will be more talk about synthesis than about integration. Who knows but that it may some day happen that the only content subject in the curriculum will be history! It may be that the present integration movement is headed in this direction.

Another example of integration in which history plays a major rôle is the program in the social sciences and the humanities which the University High School of the University of Chicago put into operation at the opening of the present school year.¹ During the pupil's first year in this program four units of understanding located in the field of recent American history form the center for the integration of history, literature, music, and art. During the second and third years units of understanding in modern history serve as the integrating centers for the same subjects. Units of understanding from the history of early civilization are used as a center of integration for the four foregoing subjects in the fourth year, and units of understanding in the history of Western civilization serve a similar purpose in the fifth year of this five-year program. The significant thing for history in this five-year program of integration is that all the pupils in the school are exposed to the subject every year of the five. If all those who are in charge of high-school programs of study today should accept the challenge that this program contains, the demand for history teachers would immediately increase at least threefold. If there are any who fear that history in the high schools is being endangered by an innovation which makes the subject the core of the work in the social sciences and the humanities as does this program, such persons certainly have no basis for their anxiety.

¹ Arthur K. Loomis, "The New Curriculum of the University High School of the University of Chicago," *School Review*, XLI (September, 1933), 508-18

One of the encouraging aspects of the integration movement at the present time is that it has little or no tendency to become stereotyped. While there is a common purpose in the movement, namely, that of breaking down the hard and fast lines of demarcation between subjects so common in traditional programs of study, those who are working out integrated programs in practical schoolroom situations seem to be seeking variety, rather than uniformity. In one experiment the integration will involve but three fields, for example, the so-called "social studies," literature, and art; in another it will encompass the specific subjects of history, geography, composition, reading, spelling, science, manual arts, music, physical education, and art; and in still another only history, reading, geography, and English will be involved in the integration. While there are cases wherein a subject other than history is made the core subject, the prevailing tendency seems to be in the direction of using history as the core. The reason for selecting history for this important function is not far to seek. It is because this subject gives a scope and a continuity to the work which other subjects, because of their inherent nature, do not seem capable of giving.

The programs of integration in the John Burroughs School and in the University High School illustrate the movement as it is now going forward at two levels of instruction, namely, the junior and the senior high school levels. Space is available for an example at the intermediate-grade level. An experimental integrated curriculum for Grade IV in the city of Binghamton, New York, has recently been set up. The subjects involved in this integration are geography, history, English, arithmetic, health, art, and music. The first center of integration in this set-up is entitled "The Caveman of Long Ago." This subject is treated under the headings "Sources of Our Information about the Caveman," "The Life of the Caveman," "The Discoveries of the Caveman," and "The Contributions of the Caveman to Civilization." Much of the work in English consists in silent and oral reading of literature based on the life and times of the caveman, dramatization of original material related to the center of interest, and oral and written stories based on pictures and suggested topics related to the caveman. "The Need of Number and Primitive Methods of Expressing It," "The Need of Telling Time and

Primitive Methods of Expressing It," and "The Need of and Primitive Means of Measuring" are the titles of the chief topics in arithmetic. The work in health, art, and music is also closely related to the integrating center "The Caveman of Long Ago." It seems unnecessary to give further details of this program of integration for Grade IV. While the remaining centers of integration are more geographical than historical, considerable use is made of history in working out the details of the program.

There is some evidence in the set-up of the Binghamton program of integration for Grade IV that the authors of the program were not completely convinced of the value of the principle of integration. This evidence is found in the provisions for unintegrated materials in connection with each of the subjects involved in the plan of integration. Detailed outlines of this unintegrated material appear at the end of the outline of the integrated arrangement. To the casual observer, the bulk of unintegrated materials seems to equal or even to surpass that of the integrated materials. The fact that the two kinds of materials are so voluminously outlined would seem to indicate a lack of faith in the power of the integrated materials to accomplish what a fourth grade is expected to accomplish. Should the integrated materials fall short of the standard, the teacher would have at her disposal the unintegrated content.

It seems evident from the examples of integration given that those who believe that history still has a place in the education of youth have no occasion for alarm when contemplating present-day programs of integration, especially if the programs are in harmony with the three examples cited. There is, however, a type of integration in which history does not play a chief rôle. Reference is here made to certain so-called "activity programs," in which little or no systematic work in any subject appears. When centers of interest are substituted for centers of integration, systematic planning in advance passes out of the picture for the simple reason that the teacher is never certain what the children's centers of interest are going to be from time to time. Had the subject of this discussion been "The Place of History in an Activity Program," there would have been little to write because a fundamental aspect of all such programs is the utter absence of subjects of study.

Besides so-called "activity programs" there are also in existence centers-of-interest and units-of-work programs—programs in which the rôle of history does not seem to be at all conspicuous. Inasmuch as these programs lack unity and coherence, little systematic use of history is needed in them. If the center of interest of a specific class is "bees" one month and "milk" the succeeding month, it is clearly evident that there would be little if any use made of history. While it is possible for the center of interest to be "boats" or "trains," both of which have a history, there is still absent the principle of continuity found in programs of integration which use history as an integrating center. Thus, it is evident that there are programs which are intended to integrate the experiences of the learner without making use of a subject assuring a definite scope and a much-needed continuity.

If it is safe to predict the tomorrow on the basis of the direction of the program-making wind of today, one seems justified in saying that the amount of attention to strictly historical material will decrease in the grades below the seventh, wherein the activity, the center-of-interest, and the unit-of-work programs are now making headway. On the other hand, the attention to material of a historical nature seems destined to increase in the grades above the sixth, wherein programs of integration with history as the center of integration are becoming more and more common. In fact, when teachers are adequately prepared to teach history in all its aspects, they will become responsible for the major part of the content material found at the junior and the senior high school levels of instruction.

FACTORS RELATED TO MALADJUSTMENT IN SCHOOL

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The purpose of this study was to determine the nature of maladjustments occurring in an average public school. This report is confined to maladjustments brought about by failure to meet academic requirements.

The school in which the study was conducted contained eight grades. Special classes were provided for children who were physically and mentally handicapped. The study was confined to children in the regular classes and was carried on over a period of two and one-half years. The cases were given active attention for a year and a half, and subsequent histories were secured for another year. The intelligence level of the school population as measured by standardized tests was average, and from every indication the social and the economic backgrounds were average. Adequate medical, sociological, and psychological aid was available, and the teachers, the principal, and the parents referred cases for complete study. All pupils who failed to make normal progress in school were automatically referred to the Foundation. It was from these referred cases that the data were secured.

A distribution of the pupils referred because of failure is given in Table I. The total school population during the year and a half was 880. Two hundred and sixty-three cases in all, or 30 per cent of the school population, were referred to the mental-hygiene division of the W. K. Kellogg Foundation. Of this number, 107 were referred because of failure in academic subjects, representing 12 per cent of the school population and 41 per cent of the cases referred. The other 156 cases were characterized by undesirable behavior patterns, such as stealing, lying, temper tantrums, and thumb-sucking, which were not necessarily interfering with school progress. Of the failing

pupils, 67 (63 per cent) were doing as well as their mental ability would permit; that is, achievement age equaled mental age and the treatment involved administrative changes. Twenty-five pupils (23 per cent of the number failing) gave indication of special deficiencies in the tool subjects, especially in reading, which handicapped them in their general progress and required remedial treatment. Fifteen cases (14 per cent of the number failing) seemed to be mentally mature and gave no evidence of any special deficiency. By a process of elimination, it appeared that these failures resulted from personality difficulties. It is with this group that this article is primarily concerned.

TABLE I
DISTRIBUTION, ACCORDING TO CAUSE OF FAILURE, OF 107 PUPILS REFERRED
TO PSYCHOLOGICAL CLINIC BECAUSE OF ACADEMIC FAILURE

<i>Cause of Failure</i>	<i>Number</i>	<i>Percentage of School Population (880)</i>	<i>Percentage of All Cases Referred (363)</i>	<i>Percentage of Failing Pupils</i>
Mentally immature . . .	67	7	25	63
Special defects	25	3	10	23
Personality difficulties . .	15	2	6	14
Total	107	12	41	100

A comprehensive study of these fifteen cases based on the clinical data was undertaken. The writer clearly understands that this approach suffers from the dangers of subjectivity of observation as well as from loss in condensation of material, but this defect is probably compensated for by the gain in inclusiveness and in retention of that undefinable something called "clinical feeling," which the clinician resents losing in the more exclusive type of survey-statistical research.

The method of procedure in analyzing these fifteen cases was to list all the physical, economic, psychological, sociological, and personality factors in each case and then to condense the material into what appeared to be critical categories. The results are given in Table II. At the end of two and a half years six of these children

still continued as failures in their school work, while nine had made satisfactory adjustments. "Adjustment" refers only to the school situation and not to the general social life. Fourteen of the cases were boys, one a girl. The chronological-age distribution was from eight through fifteen years, with no apparent concentration at any

TABLE II
FACTORS RELATED TO SCHOOL FAILURE IN THE CASE OF FIFTEEN
CHILDREN WITH PERSONALITY DIFFICULTIES

CHILD	AGE	INTELLIGENCE QUOTIENT	NUMBER OF SIBLINGS	FACTOR CAUSING PERSONALITY DIFFICULTY								TOTAL OF FACTORS
				Lowered Viciously	Fearful and Withdrawn	Fearful with Compensations	Concrete Interests	Over-solicitous Parent	Autocratic Parent	Insecure Home	Gang Influence	
Continued failure:												
A.	14	93	1	X	....	....	X	X	X	....	....	4
B.	14	93	1	X	....	X	....	....	....	X	X	4
C.	13	125	1	....	....	X	....	....	X	X	....	3
D.	12	94	0	....	....	X	....	....	....	X	....	2
E.	10	99	1	X	....	X	....	X	....	....	X	5
F.	10	104	0	X	....	X	....	X	X	X	X	6
Satisfactory adjustment made:												
G.	15	101	3	....	....	X	....	....	X	X	....	3
H.	13	102	2	....	X	....	....	....	....	....	....	1
I.	13	117	2	....	....	....	X	....	X	X	....	3
J.	12	136	3	....	....	X	....	....	X	X	X	4
K.	10	102	2	....	X	....	....	....	X	X	....	3
L.	9	96	3	....	X	....	....	....	....	....	....	1
M.	9	100	1	....	X	....	....	....	....	X	....	2
N.	8	105	1	....	X	....	....	X	....	X	....	3
O.	8	92	2	....	X	....	....	....	....	X	....	2
Total.	...	...	...	4	6	7	2	4	7	12	4	46

point. The intelligence quotients ranged from 93 to 136, with the majority grouped around the average. There were siblings attending school in thirteen cases, and all these siblings were reported to be doing well in school. Seven of the thirteen cases were oldest children.

The analysis of personality factors revealed a lowered physical

resistance in four cases. All these children were continued school failures, and each gave a history of chronic illness over long periods of time—a situation which resulted in the usual difficult attitudes of parents and siblings. All but two of the fifteen cases gave marked indications under many different circumstances of fear reactions, manifested either in withdrawn behavior or in extroverted compensations. Interestingly enough, the two cases not manifesting this basic fear reaction were boys who had strong interest drives toward concrete materials. Five of the six cases with continued school failures were compensating for emotions of fear by undesirable compensatory mechanisms, and this fact caused them to be in constant conflict with teachers and other children. Six of the nine children who made satisfactory adjustments manifested their fear reactions by withdrawn behavior.

Analysis of the parental relations revealed an over-solicitous parent in four cases; three of these children were continued failures. An autocratic, harsh parent was reported in seven cases; three of these children continued as failures while four made satisfactory adjustments. Two cases of continued failure were complicated by a combination of both an over-solicitous and an autocratic parent, necessarily in conflict over the control of the child.

Analysis of environmental conditions revealed an insecure home situation in twelve of the fifteen cases. Included in this category were all those factors which made the child feel that the home might be disbanded or that he might be excluded, such as a threat by foster-parents that they would refuse to keep the child; the loss of one parent with a coincident economic loss, making the maintenance of the home difficult; the entrance of a stepfather or a stepmother with a threat to the child's position in the home; or a threat of disintegration of the home because of economic conditions.

Four of the cases gave evidence of gang influence; that is, the boy was intimidated by, or was gaining some satisfaction through, gang contacts which were tending to interfere with school work.

The actual number of categories operating in continued cases of failure averaged 4 as compared with 2.4 for adjusted cases. In point of numbers, fear reactions in thirteen cases and insecure home situations in twelve cases seemed to be the most important.

These compiled data suggest some very interesting correlations. Because of the small number of cases, to attempt such treatment was hardly considered to be within the scope of this study. It is important to note, however, that the element of fear in the personality makeup and the insecure home situation were coincident in eleven cases. However, in ten cases with an insecure home situation siblings were not failing in school, and a short history of the siblings gave no indication of fear reactions.

The following conclusions may be drawn from this study of children failing in an average school where mentally deficient and physically handicapped children were segregated: (1) Of the failing pupils, 63 per cent were doing as well as their mental ability would permit, 23 per cent had special deficiencies in the tool subjects, and 14 per cent gave evidence of personality difficulties. (Of course, it is realized that many of the 86 per cent mentally immature and specially deficient children also had personality difficulties.) (2) A summary of the case histories of the 14 per cent of the children who were failing because of personality difficulties seemed to indicate fear reactions as the core of the personality makeup, with insecurity in the home situation as the chief contributing factor. These conditions were aggravated in some cases by lowered physical resistance, parental conflicts, and gang influences. Exceptions to the excessive fear reactions were noted in the cases of two boys with strong interest drives toward concrete activities somewhat foreign to academic work. (3) Adjustments were successfully made in 60 per cent of the cases. In the adjusted group all the children manifesting shy, withdrawn behavior were found. Among the 40 per cent failing to make adjustments, five out of six manifested their underlying fear by extroverted compensatory activities. This finding indicates that, from the standpoint of academic adjustment, a much more difficult element is present in the compensating cases than in the withdrawn cases.

A COMPARISON OF METHODS OF SECURING CORRECT LANGUAGE USAGE

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EARLIER STUDIES

Studies that reveal the specific errors which children make in speaking and in writing are numerous, but studies dealing directly with the problem of method are comparatively few. Two previous studies seem closely related to the investigation reported in this article.

In the Minneapolis public schools an experiment in sixth-grade language was carried on.² A written test on the fifty language errors most commonly heard in the Minneapolis public schools was given at the beginning and at the end of a four-week experimental period. During the interval the schools of the city were divided into six groups of "approximately equal size and ability." The groups employed six methods in an effort to eliminate error. In Group 1 the list of language errors was given to the pupils and explained, but no intensive work was done. In Group 2 correction of errors in oral and written speech during the regular work was intensified. In Group 3 drill games were used. Group 4 dramatized the attack on speech errors by writing plays, slogans, and preparing programs. In Group 5 the pupils reported and listed errors which they observed, and the corrected forms were listed on the blackboard. The pupils in Group 6 were furnished with a list of errors and planned their own remedial projects with their teacher's aid. Group 6 made the greatest gain, with Group 4 as a close second. The group using drill games ranked

¹ This study was conducted by a group of principals and teachers in the following elementary schools in Minneapolis: Bremer, Hale, Hamilton, Penn, Cleveland, Hay, Kenwood, Cooper, Lowell, Barton, Fuller, Northrop, Clinton, Loring, Warrington, Tuttle, and Whittier.

² *English in the Elementary Schools*, pp. 10-14. Educational Bulletin No. 6. Minneapolis, Minnesota. Minneapolis Public Schools, 1925.

fourth in the gain made. The teachers of Group 6 reported the activities used most frequently during the period. A "right-or-wrong" sentence drill was used most frequently. The usual procedure was for the teacher to give a sentence and to have some pupil respond with "right" or "wrong." If a sentence was wrong, the pupil was asked to give the correct form. Since Group 6 used methods which were also employed by less successful groups, the reporter of the experiment concludes that motivation was the effective factor in their success.

Symonds reports an experiment in method² in which he investigated the influence of the knowledge of English grammar on usage.

THE PROBLEM AND METHOD OF THIS STUDY

The problem of the study reported in this article was to compare the effectiveness of six methods in securing correct usage in Grades IV, V, and VI. The six methods were (1) games, (2) Beta² (practice on the incorrect form with knowledge of the correct), (3) proofreading of prepared paragraphs, (4) choice of constructions (writing the selected form in a blank), (5) all methods (one week on each), (6) choice of constructions (writing the selected form plus oral reading of all sentences). In addition to the groups using these six methods, a control group was used.

The general plan of the study included the following features.

1. A group intelligence test was given to all groups, and eliminations were made until all pupils were within ten points of one another in average intelligence. The number of pupils and the average intelligence quotient of each group are shown in Table I.

2. Pretests were made of the children's ability to use twenty selected expressions. Two measures were used: a written test, patterned after Charters' Diagnostic Language Test, and an oral test, patterned after Webster's oral tests.³

¹ Percival M. Symonds, "Practice versus Grammar in the Learning of Correct English Usage," *Journal of Educational Psychology*, XXII (February, 1931), 81-95.

² This method is a modification of Dunlap's technique of practice on errors based on his "beta hypothesis." Knight Dunlap, *Habits, Their Making and Unmaking*. New York: Liveright, Inc., 1932.

³ Edward Harlan Webster, *Daily Drills for Better English*. Yonkers-on-Hudson, New York: World Book Co., 1930.

3. Teachers were provided with guide sheets describing the method for each group. The number of practice periods, the number of minutes of practice, and the amount of outside work were carefully controlled.

4. Pupils' practice materials were prepared for each method with the exception of the method using games, where it was necessary merely to supply the teachers with descriptions of the games to be used.

TABLE I
NUMBER OF PUPILS AND AVERAGE INTELLIGENCE QUOTIENT OF PUPILS
IN EACH GROUP IN EACH GRADE

GROUP	NUMBER OF PUPILS IN GRADE			AVERAGE INTELLIGENCE QUOTIENT IN GRADE		
	IV A	V A	VI A	IV A	V A	VI A
Control group	94	95	90	118.1	118.6	113.5
Games group	114	88	80	114.0	111.9	115.4
Beta group	100	107	107	114.1	120.0	115.1
Proofreading Group	93	112	105	116.7	121.2	118.3
Written-constructions group	60	65	108	112.3	114.2	113.2
All-methods group	71	78	70	117.3	113.3	116.7
Written and oral constructions group	68	60	90	113.3	119.0	112.7

5. At the end of a six-week teaching period the initial tests were repeated to measure growth immediately after teaching.

6. The same tests were repeated two weeks after the close of the experimental period as a measure of retention.

COMPARISON OF THE RESULTS

Table II gives a comparison of each method with each other method in the three grades studied. The decrease in the number of errors represents the difference between the achievement on the pretest and that shown on the final test expressed in terms of the mean. As an illustration, the control group had an average, or mean, of 1.58 fewer errors on the final test than on the initial test, and the games group made an average of 3.54 fewer errors.

In Grade IV A on the written test the control group, reading from left to right of the table, showed less elimination of error than any

TABLE II

IMPROVEMENT IN LANGUAGE USAGE MADE BY EACH GROUP COMPARED WITH IMPROVEMENT MADE BY EVERY OTHER GROUP

Charts	DIFFERENCE IN AMOUNT OF IMPROVEMENT														
	DECREASE IN MEAN NUMBER OF ERRORS	CONTROL GROUP		GAMES GROUP		BETA GROUP		PROOFREAD- ING GROUP		WRITTEN- CONSTRUC- TIONS GROUP		ALL-METHODS GROUP		WRITTEN AND ORAL CON- STRUCTIONS GROUP	
		Mean	Critic- cal Ratio	Mean	Critic- cal Ratio	Mean	Critic- cal Ratio	Mean	Critic- cal Ratio	Mean	Critic- cal Ratio	Mean	Critic- cal Ratio	Mean	Critic- cal Ratio
Results of Written Test in Grade IV A															
Control.	1.58 ± .37	.....	3.84	.....	3.84	-5.35	6.60	-5.50	11.46	-6.16	9.04	-6.72	12.22	-6.85	11.05
Games.	3.54 ± .37	.....	3.84	.....	3.84	-3.39	4.13	-3.54	7.23	-4.20	6.67	-4.76	8.35	-4.89	7.76
Beta.	6.93 ± .73	.....	6.60	.....	6.60	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Proofreading	7.08 ± .33	.....	11.46	.....	11.46	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Written constructions	7.74 ± .51	.....	9.94	.....	9.94	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
All-methods.	8.30 ± .43	.....	12.22	.....	12.22	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Written and oral constructions	8.43 ± .51	.....	11.05	.....	11.05	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Results of Oral Test in Grade IV A															
Control.	1.06 ± .39	.....	5.02	.....	5.02	-4.30	6.03	-4.09	6.60	-3.20	4.71	-5.33	8.20	-5.62	8.14
Games.	3.82 ± .39	.....	5.02	.....	5.02	-1.54	2.17	-1.33	2.15	.....	.....	-2.57	3.95	-2.86	4.14
Beta.	5.36 ± .59	.....	6.03	.....	6.03	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Proofreading	5.15 ± .48	.....	6.60	.....	6.60	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Written constructions.	4.26 ± .56	.....	4.71	.....	4.71	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
All-methods.	6.39 ± .52	.....	8.20	.....	8.20	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Written and oral constructions	6.68 ± .57	.....	8.14	.....	8.14	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Results of Written Test in Grade V A

	-2.22	4.93	-5.15	10.51	-5.77	13.11	-5.56	10.11	6.90	13.02	-7.79	14.43
Control	.94 ± .39			4.93								
Games	3.16 ± .35	+2.22										
Beta	6.09 ± .40	+5.15	10.51									
Proofreading	6.71 ± .33	+5.77	13.11									
Written constructions	7.84 ± .47	+5.56	10.11	+3.34								
All methods.	7.80 ± .45	+6.90	13.02	+4.68								
Written and oral constructions	8.73 ± .48	+7.79	14.43	+5.57								

Results of Oral Test in Grade V A

Control	18 ± 33	....	-2 61	5.33	-4 64	8.00	-2 80	5 71	-4.03	-6 71	8.49	-8 03	13.84
Games...	379 ± 37	+2.61	5.33	....	-2.03	3.33	19	.37	1.42	2.58	6.31	5.42	8.89
Beta	82 ± 48	+4 64	....	....	....	....	....	....	....	....	....	....	....
Profreading	3 98 ± 37	+2 80	5 71	+2.03	3.33	....	....	....	....	....	....	....	....
Written constructions	21 ± 41	+4 03	7 60	+1 42	2.58	....	....	....	....	....	....	....	....
All-methods	7 89 ± 52	+6.71	8.49	+4.70	5.51	+2 07	2 92	+3 91	6 21	+2 68	4 06	4 06	4 06
Written and oral constructions	19.21 ± 48	+8 03	13.84	+5.42	8.89	+3.39	4 99	+5 23	8 57	+4.00	6 35	1.32	1.86

Results of Written Test in Grade VI A

	94 ± 28	...	-2	22	4.93	-5	12	-3	35	6.98	-4	61	10	48	-4	83	10	78	-5	87	11	29
Control	3 14 ± 36	-2	22	4.93	-2	92	5	31	2 13	-2	39	4	78	-2	63	5	16	-3	65	6	40	
Games	6.04 ± 41	5	12	10.24	2	92	5	31	2 13	-2	39	4	78	-2	63	5	16	-3	65	6	40	
Beta	4.27 ± 39	3	35	6.98	1	33	1	77	3 11	1	26	2	42	1	50	2	83	1	50	2	83	
Proofreading	4.27 ± 39	3	35	6.98	1	33	1	77	3 11	1	26	2	42	1	50	2	83	1	50	2	83	
Written constructions	5 53 ± 34	4	85	10 48	2	39	1	50	2 83	1	24	48	2	48	2	56	4	27	2	56	4	27
All methods	5 77 ± 36	4	85	10 48	2	39	1	50	2 83	1	24	48	2	48	2	56	4	27	2	56	4	27
Written and oral constructions	6.79 ± 44	5	85	11 29	3	65	6	40	4	27	2	29	1	02	1	82	1	02	1	82	1	02

Results of Oral Test in Grade VI A

		-1.69	3.35	-4.76	7.43	-3.20	7.62	-2.98	6.48	-4.27	5.93	-6.21	11.09
Control	1.55 ± .31	...	...	-2.47	3.92	-1.51	2.96	-1.29	2.35	-2.58	3.33	-4.52	7.29
Games	3.24 ± .42	1.69	...	3.92	...	...	...	1.18	2.93	...	1.51	2.05	3.11
Beta	5.71 ± .27	7.43	2.47	3.96	...	...	...	.22	.49	1.07	1.51	2.01	3.72
Proofreading	4.73 ± .49	4.16	1.51	2.35	7.18	2.03	4.9	...	...	1.29	1.77	3.23	5.67
Written constructions.	4.53 ± .34	3.29	6.48	1.29	...	...	...	...	...	...	...	...	2.43
All methods	5.82 ± .65	4.27	5.93	2.35	3.11	2.01	3.72	3.23	5.67	1.94	2.43	...	...
Written and oral constructions	7.76 ± .46	6.21	11.09	4.52	7.29	2.05	3.11	2.01	3.72	3.23	5.67	1.94	2.43

other group. The group using games excelled over the control group only. The Beta group excelled over the control and the games group. The group using proofreading was superior to three groups, but the difference between the Beta group and the proofreading group was probably not a reliable difference, as is shown by the small critical ratio (.19). The group using choice of constructions with written responses showed four positive differences, but two of the four were of doubtful significance, since the critical ratio was small. The all-methods group had five positive differences, but two and possibly three were of doubtful significance. The group using choice of constructions with both written and oral responses had positive differences in all comparisons, but here again the critical ratios in some instances were not large enough to indicate reliable differences.

The differences shown on the oral test in Grade IV A were, in general, the same as those shown on the written test. The chief difference seems to be that the method of choice of constructions with written responses was less effective in securing oral improvement than it is shown to have been in securing written improvement. This result might be expected when a method based on written response is measured in terms of its oral effect. The method employing choice of constructions with both written and oral responses was more effective in securing improvement of the oral usage than was any other method. It excelled in each comparison; three differences showed a critical ratio of more than 3, which indicates complete reliability.

The results in Grade V A on both the written and the oral tests followed the same general trends as those in Grade IV A. The method using choice of constructions with both written and oral responses seemed to be the most effective. All comparisons between this method and other methods showed positive differences, and only in the comparisons with the all-methods group was the critical ratio less than 3. In Grade V A, as in Grade IV A, the method of choice of constructions with written responses was more effective in securing improvement in written usage (written test) than it was in securing improvement in oral English (oral test).

In Grade VI A, as in Grades IV A and V A, the method employing choice of constructions with both written and oral responses was the

most effective. The Beta method ranks second in effectiveness when only definitely reliable differences are considered.

Since the achievement of the boys compared with that of the girls showed no significant differences (with the possible exception of the Beta method, which seemed slightly more effective with girls than with boys), the results for boys and girls are not discussed separately.

Table II compares each method with every other method by grade and by type of test. Each method is compared with some other method thirty-six times. Therefore, if any given method should show a higher mean score than the method with which it was compared in every case, that particular method would have thirty-six positive comparisons. The data in Table III were secured by counting the number of times each method showed a positive difference or a larger mean growth than the method with which it was compared. The control group, or that group which carried on the usual work without special attention to correct usage, failed to show a single mean growth larger than that of any of the other methods. The method using games was more effective than one other method on each test in each grade. The Beta method excelled over two other methods on the written test in Grade IV A and V A, over four other methods on the oral test in all three grades, and over five other methods on the written test in Grade VI A, or a total of nine instances in which it was superior to some other method on the written test and a total of twelve instances in which it was superior on the oral test. The results for each method should be read in a like manner. The method employing choice of constructions with both written and oral responses showed positive differences in all thirty-six comparisons; the all-methods group, in twenty-nine comparisons; the group using choice of constructions with written responses and the proofreading group, in seventeen comparisons each; the Beta group, in twenty-one; the games group, in only six; and the control group, in none.

Since the critical ratios given in Table II show that some of the differences, although positive, were little more than chance differences, it is well to consider only the statistically reliable differences. Each positive difference in the case of the games group proved to be a reliable difference, this group having a total of six reliable positive

TABLE III
SUMMARY OF POSITIVE DIFFERENCES FOUND IN COMPARISON OF
SIX METHODS OF TEACHING CORRECT LANGUAGE USAGE

Group	NUMBER OF POSITIVE DIFFERENCES			NUMBER OF RELIABLE POSITIVE DIFFERENCES		
	Written Test	Oral Test	Both	Written Test	Oral Test	Both
Control group:						
Grade IV A.....	0	0	0	0	0	0
Grade V A.....	0	0	0	0	0	0
Grade VI A.....	0	0	0	0	0	0
Total.....	0	0	0	0	0	0
Games group:						
Grade IV A.....	1	1	2	1	1	2
Grade V A.....	1	1	2	1	1	2
Grade VI A.....	1	1	2	1	1	2
Total.....	3	3	6	3	3	6
Beta group:						
Grade IV A.....	2	4	6	2	1	3
Grade V A.....	2	4	6	2	3	5
Grade VI A.....	5	4	9	3	2	5
Total.....	9	12	21	7	6	13
Proofreading group:						
Grade IV A.....	3	3	6	2	1	3
Grade V A.....	4	2	6	2	1	3
Grade VI A.....	2	3	5	1	1	2
Total.....	9	8	17	5	3	8
Written-constructions group:						
Grade IV A.....	4	2	6	2	1	3
Grade V A.....	3	3	6	2	1	3
Grade VI A.....	3	2	5	2	1	3
Total.....	10	7	17	6	3	9
All-methods group:						
Grade IV A.....	5	5	10	2	2	4
Grade V A.....	5	5	10	2	4	6
Grade VI A.....	4	5	9	2	2	4
Total.....	14	15	29	6	8	14
Written and oral constructions group:						
Grade IV A.....	6	6	12	2	3	5
Grade V A.....	6	6	12	5	5	10
Grade VI A.....	6	6	12	3	5	8
Total.....	18	18	36	10	13	23

differences. The Beta group had two reliable positive differences on the written test and one on the oral test in Grade IV A, two and three reliable differences in Grade V A, and three and two in Grade VI A, a total of thirteen positive reliable differences. The results for each method are read in a like manner. The method using choice of constructions with both written and oral responses showed twenty-three reliable positive differences, the largest number of superior differences attained by any method. The all-methods group had fourteen reliable and positive differences, while the Beta group had thirteen. If the total number of reliable positive differences is taken as an index of the effectiveness of the various methods, then the method using choice of constructions with both written and oral responses places first, and the all-methods group is in second place, with the Beta group a strong competitor.

IMPLICATIONS

Undoubtedly, each method was more effective for some individual child than any other method would have been. Still, the problem of this study was to ascertain the effectiveness of certain methods with groups of children, and the tables presented here seem to justify the following conclusions.

1. If errors in usage are to be eliminated, some definite attempt toward that end is necessary. The control group, or that group which carried on only the ordinary work of the language lesson, showed but little growth during the six-week period.

2. Games were of but slight assistance in securing better usage as measured either by oral or by written tests.

3. The Beta method ranks third in effectiveness if only the reliable positive differences are considered. This method seemed somewhat more effective with the older pupils (Grades V A and VI A) than with the younger pupils (Grade IV A). The effectiveness of this method is particularly interesting, since it is confirmed, in a degree at least, by both the earlier Minneapolis study and Symonds' study.

4. Proofreading was more effective than the use of games but ranks fifth among the six methods in the number of reliable and positive differences.

5. Choice of constructions with written responses ranks fourth in the number of positive and reliable differences. The improvement secured by this method on the written test was consistently greater than the improvement secured on the oral test. It is apparent that, if teachers hope to improve oral usage through drill, they must provide oral drill. The group employing choice of constructions with written responses and the group employing choice of constructions with both written and oral responses used the same practice exercises; the only variation was the addition of the oral response to the one method. The greater effectiveness of the latter method, that using responses of both types, gives reliable evidence of the value of practicing the type of response which we hope to improve; that is, if improvement in oral usage is desired, oral practice must be provided.

6. The all-methods group ranks second in the number of positive reliable differences. The effectiveness of this method may have been caused by the motivating effect of the use of new materials and procedures each week. On the retention test, which was given two weeks after the close of the practice period, this group showed a greater loss than was shown by any other group, with the possible exception of the games group. (The results of the retention tests are not presented in this limited report.) This loss suggested that, while many methods may have stimulated great interest, they may have resulted in some confusion.

7. The method employing choice of constructions with both written and oral responses ranks first in effectiveness. It seemed slightly more effective in securing correct oral usage than in improving written usage.

8. Much of the commercialized and home-made practice materials on correct grammar usage are of the choice-of-construction type. Teachers using such materials would do well, according to the implications of this study, not only to have the pupils write their choices in the proper blanks, but also to provide some type of chorus drill or oral practice.

INTELLIGENCE AND JUVENILE DELINQUENCY

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Students of juvenile delinquency have advanced varying views regarding the correlation between intelligence and delinquent trends in children. The consensus is that mental retardation is one of the most constant factors responsible for antisocial behavior. There are, however, dissenting voices.

Anderson asserts that more than one-half of the children who pass through the juvenile courts show physical and mental disabilities that are fundamental factors in their delinquent conduct.¹ Burt disagrees. He maintains that "of the juvenile delinquents whom I have tested with the Binet-Simon tests, 8 per cent and no more are mentally defective—8 per cent, that is to say, are children who are backward in intelligence by at least three-tenths of their ages."² Healy probably does not confine himself to this limitation of the definition of "mentally defective" when he states that "mental defect forms the largest single cause of delinquency."³

Esther L. Richards, discussing a group of forty-eight children referred for incorrigibility to the Henry Phipps Dispensary of the Johns Hopkins Hospital, says that among these children, with stealing as the dominant delinquency, there are thirteen children (27 per cent) mentally defective and thirty-five children (73 per cent) with normal intellectual equipment.⁴ Goddard refers to reports presented at the Ohio Bureau of Juvenile Research which show that 36.5 per cent of the children studied were found to be feeble-minded, 30.3

¹ V. V. Anderson, *The Psychiatric Clinic in the Treatment of Conduct Disorders of Children and the Prevention of Juvenile Delinquency*. New York: National Committee for Mental Hygiene, 1923.

² Cyril Burt, *The Young Delinquent*, p. 286. New York: D. Appleton & Co., 1925.

³ William Henly, *The Individual Delinquent*, p. 447. Boston: Little, Brown & Co., 1915.

⁴ Esther Loring Richards, "Dispensary Contacts with Delinquent Trends in Children," *Mental Hygiene*, VIII (October, 1924), 921.

per cent psychopathic, 17.4 per cent deferred, 8 per cent luetic, and only 4.5 per cent "free from any psychopathy."¹

Discussing the findings of a mental-hygiene survey made in the Juvenile Court in Cincinnati, Anderson presents statistics that are more in keeping with those of Burt. He found that feeble-mindedness was present in only 8 per cent of the cases and that 63 per cent of the children had intelligence quotients above 80. Serious mental conflicts, mental maladjustments, emotional complexes, unhealthy mental imagery, various physical disorders, and bad home influences were constant factors. The parents of 60 per cent of the children had already been problems to the various organizations in Cincinnati. Seventy per cent of the children came from homes in which parental conditions and parental control received the lowest possible ratings; desertion on the part of the father or mother, bad moral influences exercised by one or both parents, and total lack of supervision of the child were conditions which were marked in these cases. Ninety per cent of the girl delinquents who passed through the court came from such homes.²

From such conflicting statistical evidence what conclusion shall we draw?

The writer wishes to set forth the evidence which he derived from an investigation of delinquents in the Norfolk Juvenile Court. Thirty-seven cases were selected in the order in which they came to the court, omitting minor offenses like truancy, innocent gang larks which brought about the issuance of a warrant, and the like. These thirty-seven cases represent the following charges: attempted murder with a pistol, assault with a knife, larceny, drunkenness, house-breaking, sex offenses, perjury, running away from home, destroying private property, incorrigibility at home and in school, and forgery. The offenders include twenty-six white boys, seven white girls, three negro boys, and one negro girl. The chronological ages range from eight years and four months to seventeen years and two months.

¹ Henry Herbert Goddard, *Juvenile Delinquency*, pp. 54-55. New York: Dodd, Mead & Co., 1921.

² *Report of the Mental Hygiene Survey of Cincinnati*, pp. 14-26. Conducted by the National Committee for Mental Hygiene, V. V. Anderson, Associate Medical Director. Cincinnati, Ohio: Mental Hygiene Council of the Public Health Federation (25 East Ninth Street), 1922.

The writer examined each of these children with the Stanford Revision of the Binet-Simon Intelligence Scale, with the results shown in Table I. An analysis of Table I with the use of the criterion adopted by Terman¹ shows that only seven of the total of thirty-seven delinquents, or 18.9 per cent, are to be classified as definitely feeble-minded. The largest number, thirteen, fall in the group with intelligence quotients of 71-80, which Terman designates as "border-line deficiency, sometimes classifiable as dullness, often as feeble-mindedness." The writer has carefully analyzed the record booklet of each

TABLE I
DISTRIBUTION OF THIRTY-SEVEN JUVENILE DELINQUENTS
ACCORDING TO INTELLIGENCE QUOTIENTS

INTELLIGENCE QUOTIENT	WHITE BOYS (26)		WHITE GIRLS (7)		NEGRO BOYS (3)		NEGRO GIRLS (1)	
	Number	Per Cent	Number	Per Cent	Number	Per Cent	Number	Per Cent
61-70.....	5	19.2	1	14.3	0	0.0	1	100
71-80....	7	26.9	5	71.4	1	33.3	0	0
81-90....	8	30.8	1	14.3	1	33.3	0	0
91-100....	5	19.2	0	0.0	0	0.0	0	0
101-110....	1	3.9	0	0.0	1	33.3	0	0

child who scored in this class and believes that four of the white boys (with intelligence quotients of 73, 71, 71, and 70, respectively), one colored boy (with an intelligence quotient of 71), and one of the white girls (with an intelligence quotient of 71) might be classified as feeble-minded. These additions increase the total of feeble-minded children to thirteen, or 35.1 per cent, and leave seven, or 18.9 per cent, of the delinquents in the border-line class. Ten, or 27.0 per cent, of the delinquents fall in the dull-normal class, which Terman designates as "dullness, rarely classifiable as feeble-mindedness." Seven, or 18.9 per cent, belong to the normal class of intelligence. The normal classification was divided into two groups (91-100 and 101-110).

None of the girls are found in the normal class, the majority falling in the border-line group (with intelligence quotients of 71-80). At

¹Lewis M. Terman, *The Measurement of Intelligence*, p. 79. Boston. Houghton Mifflin Co., 1916.

first glance, one might seem justified in concluding that the intellectual retardation of these girls was chiefly responsible for their delinquency. It must be remembered, however, that behavior is not to be interpreted in terms of the intelligence test alone. A careful study of the child's biological and temperamental equipment and a thorough survey and evaluation of his reaction to his environment must supplement the intelligence findings if an accurate and reliable picture of the whole child is to be procured. When these five girls are studied from this broader point of view, it becomes evident that, while intellectual handicap may have been a contributory cause to the delinquencies, other significant factors were present, which were in themselves sufficient to convert these children into serious behavior problems.

Two of the girls were married, one at the age of fourteen and the other at the age of fifteen. In each case the interview revealed that the marriage was entered into in the hope of escaping unbearable home conditions. Both girls were referred to the court on the charge of sex promiscuity. One had a chronological age of sixteen years and eight months and a mental age of ten years and two months (base line year VIII and intelligence quotient of 64), while the other had a chronological age of sixteen years and eleven months and a mental age of eleven years and eleven months (base line year IX and intelligence quotient of 74). The father of the former girl was a worthless alcoholic, who terrorized his children, and the mother was living in prostitution in another city. Seven persons lived in three rooms, and for days at a time the only food in the home was supplied by sympathetic neighbors. The second child was living with her divorced mother, who had taken in a "boarder" to help defray living expenses. The girl was not deceived about the boarder's status and became very bitter toward her mother and the home. She tearfully confessed to the examiner how she had planned to kill her mother and the boarder but had lost courage and decided to run away.

The third child, who had a chronological age of thirteen years and eleven months and a mental age of eleven years and one month (base line year IX and intelligence quotient of 80) was referred by her uncle for holding clandestine meetings with a married man. In the course of the interview the girl told how she had learned that her

uncle was also her father and that she had discovered her illegitimacy with such deep anguish that she decided to "get even."

The fourth child, who had a chronological age of sixteen years and three months and a mental age of eleven years and six months (base line year IX and intelligence quotient of 71) showed a grave temperamental imbalance and emotional instability. She was fairly manageable until her father, to whom she was much attached, left home. She then went to pieces and vowed that she would not rest until she had found him. She sometimes went off and stayed away all night, until her mother, at a loss to know how to cope with the situation, brought her to the court.

The fifth child, who had a chronological age of fourteen years and ten months and a mental age of eleven years and eight months (base line year IX and intelligence quotient of 79) was referred for general delinquency and incorrigibility. She was the seventh of nine siblings. The eldest brother had served a jail term for seduction; another brother was alcoholic; a third was an epileptic beggar; and a fourth had a court record for stealing and truancy. The father was epileptic and alcoholic, and the mother was feeble-minded. On the maternal side there was a history of pulmonary tuberculosis. At the time of the interview the father was too drunk to give adequate responses to questions.

In only one of these five cases was the social and economic status satisfactory.

The data were studied with the view of ascertaining whether in this particular group of court cases certain types of delinquencies were more prevalent among persons with lower intelligence quotients than among persons with higher intelligence quotients. The results are shown in Table II. This table shows that fifty-nine charges were preferred against these thirty-seven juvenile delinquents. In terms of total number of charges, the highest frequency occurs in the group with an intelligence-quotient range of 71-80, or those presenting border-line deficiency. This group consists of eight boys and five girls, or 35.1 per cent of the total number of delinquents, against whom twenty-one charges were preferred. Next in rank, with fifteen charges, is the group of dull-normal children (intelligence quotients of 81-90), who make up 27.0 per cent (nine boys and one girl) of the

total number of delinquents. In third place is the definitely feeble-minded group (intelligence quotients of 70 or less), who represent 18.9 per cent of all the delinquents. This group is responsible for thirteen of the fifty-nine charges. In fourth place are the normal groups (intelligence quotients of 91-100 and 101-110), with ten delinquencies charged to seven boys.

TABLE II
DISTRIBUTION OF THIRTY-SEVEN JUVENILE DELINQUENTS IN VARIOUS
INTELLIGENCE GROUPS ACCORDING TO TYPES
OF DELINQUENCY

TYPE OF DELINQUENCY	NUMBER OF CHARGES	NUMBER OF CASES IN INTELLIGENCE GROUP									
		61-70		71-80		81-90		91-100		101-110	
		Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
Larceny.....	20	5	1	5	0	5	0	3	0	1	0
Housebreaking	13	2	1	4	0	4	0	1	0	1	0
Incorrigibility	9	0	0	2	4	1	1	1	0	0	0
Running away from home	4	1	0	1	0	0	1	1	0	0	0
Assault.....	4	0	0	2	0	1	0	1	0	0	0
Destroying private prop-											
erty.....	3	2	0	0	0	1	0	0	0	0	0
Sex offenses.....	3	0	1	0	2	0	0	0	0	0	0
Forgery.....	1	0	0	0	0	1	0	0	0	0	0
Drunkenness.....	1	0	0	0	0	0	0	1	0	0	0
Pyromania.....	1	0	0	1	0	0	0	0	0	0	0
Total.....	59	10	3	15	6	13	2	8	0	2	0

The findings become clearer when presented in percentages, as in Table III. The feeble-minded group (intelligence quotients of 61-70) furnishes the highest percentage of delinquencies in relation to the percentage of delinquents. Next in order comes the border-line group (intelligence quotients 71-80), although the difference between the percentages is only 0.5. In the dull-normal group (intelligence quotients of 81-90) the percentage of delinquencies is 1.6 less than the percentage of delinquents, while in the normal group (intelligence quotients of 91-110) the percentage of delinquencies is 2.0 less than the percentage of delinquents. These findings seem to indicate that charges of delinquency diminish as intelligence increases and that there is a tendency toward recidivism in the lower intelligence-quo-

tient groups. However, the court cases selected for this study are too few to give conclusive findings. It is noteworthy that the percentages of delinquents are higher for the border-line and the dull-

TABLE III
PERCENTAGE OF DELINQUENTS AND PERCENTAGE OF DELIN-
QUENCIES IN EACH INTELLIGENCE GROUP

Intelligence Quotient	Number of Children	Percentage of Delinquents	Percentage of Delinquencies
61-70..	7	18 9	22 0
71-80..	13	35 1	35 6
81-90..	10	27 0	25 4
91-110..	7	18 9	16 9

normal groups than for the feeble-minded and the normal groups. In the two latter groups the percentages of delinquents are the same.

SUMMARY AND CONCLUSIONS

An investigation of thirty-seven delinquents examined by the writer in the Norfolk Juvenile Court reveals that the problem of juvenile delinquency is provoked by a number of causative factors. While the antisocial conduct of the young offender may be regarded as a symptom of poor mental health, we cannot interpret his disordered behavior until we are in possession of every aetiological fact that scientific exploration can uncover. Too frequently there is a tendency on the part of students of juvenile delinquency to attach disproportionate importance to the oft-discovered factor of intellectual deficit. These students feel that mental deficiency and defective inhibitory powers go hand in hand and tend to produce distorted types of behavior. That attitude was scrupulously avoided in this study, and the following results were derived. (1) A large majority of the thirty-seven juvenile delinquents are not mentally deficient. The belief that feeble-mindedness is in itself the outstanding cause of juvenile delinquency is not substantiated by the findings of this study. (2) There are in the group as many normally intelligent as there are feeble-minded delinquents. (3) A larger number of offenders is found in the border-line group than is found in any other group. (4) The general intelligence level of the male offenders is higher than that of the female offenders.

SELECTED REFERENCES FROM THE LITERATURE ON EXCEPTIONAL CHILDREN

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The references in the following bibliography from the literature on exceptional children are classified as follows: publications concerned with (1) subnormal and backward children, (2) behavior and problem cases, (3) superior and gifted children, (4) the blind and partially seeing, (5) crippled children, (6) deaf and hard-of-hearing children, (7) delicate children, (8) speech defectives, and (9) general references. The references in the first three of these classifications were compiled and annotated by Dr. Hollingworth; those in the fourth to the eighth classifications, inclusive, by Dr. Martens. Each of the two compilers supplied some of the general references.

SUBNORMAL AND BACKWARD CHILDREN

182. AMOSS, HARRY E., and DE LAPORTE, HELEN. *Training Handicapped Children*. Toronto, Canada: Ryerson Press, 1933. Pp. 328.

A description of work done in Ontario schools for pupils who are unfortunate deviates, including those in rural classes. Also includes a manual of classroom procedure.

183. CLARK, L. P. "The Present and Future Outlook in the Treatment of Amentia," *Psychiatric Quarterly*, VII (January, 1933), 50-71.

The idea is expressed that psychoanalysis may be applied to mental defectives in such a way as to further their education.

184. LOBINGIER, ANDREW STEWART. "Brain Surgery in Epilepsy and Feeble-mindedness," *Journal of Juvenile Research*, XVII (April, 1933), 89-93.

A statement of the progress and the present status of cerebral surgery for the relief of the epileptic and the feeble-minded.

185. LORD, ARTHUR B. "A Survey of Four Hundred Forty-nine Special Class Pupils," *Journal of Educational Research*, XXVII (October, 1933), 108-14.

A study was made in Massachusetts of 230 mentally deficient persons sixteen to twenty-one years of age who had left the public schools and of 219 pupils

still in special classes. Many of these pupils and former pupils had adjusted adequately to their social-economic condition, although delinquency was much more frequent than among the generality of like age.

186. PIOTROWSKI, Z. A. "The Test Behavior of Schizophrenic Children," *Proceedings and Addresses of the Fifty-seventh Annual Session of the American Association on Mental Deficiency*, XXXVIII (1933), 332-44.

Qualitative analyses of psychometric-test results for six schizophrenic and eight mentally deficient children show that the former do better on verbal tests and the latter on performance tests.

187. PORTENIER, LILLIAN G. *Pupils of Low Mentality in High School*. Teachers College Contributions to Education, No. 568. New York: Teachers College, Columbia University, 1933. Pp. viii+110.

The intellectual resources among high-school pupils have been gradually decreasing with the increase in attendance. Pupils with intelligence quotients below 85 were studied in detail. It was found that these pupils are receiving credit for effort rather than for achievement. Pupils of low mentality who reach high school tend to differ from the dull in general in that the former are more industrious and conformist and belong to better families than the latter.

188. POTTER, HOWARD W. "A Clinical Consideration of Mental Deficiency," *Psychiatric Quarterly*, VII (April, 1933), 195-202.

A presentation of a medical point of view, in which the hypothesis is expressed that treatment and training in cases of mental deficiency will be more adequate when arranged for the clinical condition instead of the mental-age level.

189. WITTY, PAUL ANDREW, and BEAMAN, F. N. "The Play of Mental Deviates," *Mental Hygiene*, XVII (October, 1933), 618-34.

Observation shows that mentally deficient children cannot participate in games that require much organization. Simple group games are appropriate, as well as dancing, excursions, music, manual projects, and simple dramatics.

BEHAVIOR AND PROBLEM CASES¹

190. ACKERLY, SPATFORD. "Rebellion and Its Relation to Delinquency and Neurosis in Sixty Adolescents," *American Journal of Orthopsychiatry*, III (April, 1933), 147-60.

A study of the interrelations between overt rebellion and delinquency or neurosis, as shown by thirty delinquent and thirty non-delinquent siblings.

191. McCLOURE, W. E. "Intelligence of 600 Juvenile Delinquents," *Journal of Juvenile Research*, XVII (January, 1933), 35-43.

A study of 602 juvenile delinquents brought before the juvenile court of Lucas County, at Toledo, Ohio. The mean intelligence quotient (Stanford-Binet) was 79.34, with a range from 40 to 118. The birthday ages ranged from 7 to 17 years.

¹ See also Item 86 in the list of selected references appearing in the March, 1934, number of the *Elementary School Journal* and Item 371 in the May, 1934, number of the *School Review*.

192. MALLER, JULIUS B. "The Trend of Juvenile Delinquency in New York City," *Journal of Juvenile Research*, XVII (January, 1933), 10-18.

A survey of the records of the Children's Court, New York City, for the years 1902-32. The chief finding relates to the increase in the proportion of girls arraigned. The ratio of boys to girls in the first decade studied was sixty to one; in the latest decade, it was eight to one.

193. SHIMBERG, MYRA E., and ISRAELITE, JUDITH. "A Study of Recidivists and First Offenders of Average and Defective Intelligence," *American Journal of Orthopsychiatry*, III (April, 1933), 175-80.

At the Judge Baker Foundation, in Boston, there was found to be practically no difference in adjustment between offenders of average intelligence and those of defective intelligence, either as recidivists or as first offenders.

SUPERIOR AND GIFTED CHILDREN

194. CATTELL, PSYCHE. "Do the Stanford-Binet IQ's of Superior Boys and Girls Tend To Decrease or Increase with Age?" *Journal of Educational Research*, XXVI (May, 1933), 668-73.

A Harvard study conflicts with the Stanford study, previously published, in showing for superior children an increase of intelligence quotient with age. In both studies intelligence quotients of girls regressed more frequently than those of boys. Methods of selecting children and age differences between the two groups may underlie the conflict in results.

195. MARTENS, ELISE H. *Teachers' Problems with Exceptional Children: II. Gifted Children*. United States Office of Education Pamphlet No. 41 (1933). Pp. iv+46.

An explanation of the nature and the needs of the intellectually gifted child, with suggestions for classroom procedures. Eleanor Schmidt and Mary Porter contributed an account of an activity unit worked out in the public schools of Cleveland, Ohio.

BLIND AND PARTIALLY SEEING

196. BLEND, FRANCES. "Recreation of Blind Children in the Public Schools," *Outlook for the Blind*, XXVII (October, 1933), 171-74.

A discussion of objectives, attitudes, and methods which should be considered in providing appropriate recreation for blind children in the public day schools. Stresses re-creation as a goal of play activities. The development of ability on the part of the blind child to take his place with seeing children is considered essential in his education.

197. CUTSORTH, THOMAS DARL. *The Blind in School and Society*. New York: D. Appleton & Co., 1933. Pp. xx+264.

A psychological study of the personality of the blind. Includes consideration of emotional problems, aesthetic appreciation, fantasy life, voice and speech, and social adjustment. Implications for the educational program are discussed. A bibliography is included.

198. HATHAWAY, WINIFRED. "History and Development of Sight-saving Classes in the United States," *Sight-Saving Review*, III (March, 1933), 20-37.
A paper presented at the annual meeting of the International Association for the Prevention of Blindness held in Paris, November 19, 1932. A comprehensive discussion of the development of sight-saving classes and of such problems as organization and administration, equipment, curriculum, supervision, teacher training, vocational guidance, and finance.
199. McLEOD, BEATRICE. *Teachers' Problems with Exceptional Children: I. Blind and Partially Seeing Children*. United States Office of Education Pamphlet No. 40 (1933) Pp. 32.
Written primarily for teachers in rural and small urban districts where special supervision is not available. Treats of the common problems encountered by the teacher in dealing with children who have seriously defective vision.
200. MERRY, RALPH VICKERS. *Problems in the Education of Visually Handicapped Children*. Harvard Studies in Education, Vol. XIX. Cambridge, Massachusetts: Harvard University Press, 1933. Pp. xiv+244.
A comprehensive survey of the educational status of blind and partially seeing children. Presents a historical background and discusses problems of objectives, organization, methods, and teacher training. Discusses also the topics of intelligence and achievement of visually handicapped children, health conditions, personality and guidance problems. Includes a bibliography.

CRIPPLED CHILDREN

201. CARLSON, EARL R. "The Education of the Birth Injured," *Journal of Health and Physical Education*, V (January, 1934), 14-16, 56.
An address given before the convention of the American Physical Education Association, Therapeutic Section, held at Louisville, Kentucky, in April, 1933. The statement is made that "a sound mind behind a crippled body will also become crippled unless adequate channels of expression can be found" (p. 14). How expression can be facilitated in cases of disturbances arising from birth injury is the theme of this address. Mental and muscle training should go hand in hand.
202. GERMANO, GUY G. "The Volunteer Teaching Corps: A Movement To Provide Instruction for Crippled, Bedridden, and Shut-in Children, in Akron, Ohio," *Education*, LIV (September, 1933), 44-46.
Describes a plan of assisting handicapped children in which "a corps of unpaid volunteers, composed largely of unemployed and ex-school teachers, are giving several hours weekly of their time and professional efforts in order to instruct bedridden, crippled, and shut-in children who would otherwise be deprived of an education, due to depleted school funds" (p. 44).
203. INGRAM, MARGUERITE L. "Trends in Education of Crippled Children," *Journal of Educational Sociology*, VI (February, 1933), 339-47.
A review of what has been accomplished in the field of education of crippled children, particularly during the past ten years.

204. WILLIAMS, HORTENSE L. "How Normal Recreation Has Been Adapted for Crippled Children," *Crippled Child*, XI (October, 1933), 35-37.

A description of activities and experiments in providing recreation for crippled children carried out in Los Angeles under direction of the author. The orthopedic hospital-school for physically handicapped children was used as a laboratory for investigating what could be done. The work was carried on by the playground and recreational department of the city, in which the author is director of institutional recreation.

DEAF AND HARD-OF-HEARING

205. BROWN, HARRY B. "The Vocational Activities of Pupils of the Pennsylvania Institution for the Deaf during the Past 12 Years," *American Annals of the Deaf*, LXXVIII (March, 1933), 132-44.

Reports results of an investigation made of the vocational aspects of education of the deaf. On the basis of the data received from questionnaires filled in by former pupils of schools for the deaf, recommendations are made for the modification of work at the Pennsylvania school.

206. GOLDSTEIN, MAX A. *Problems of the Deaf*. St. Louis, Missouri: Laryngoscope Press, 1933. Pp. 580.

A compendium of information pertaining to physiological, psychological, and pedagogical phases of the subject treated. Includes historical data, a discussion of hearing devices, lists of schools for the deaf, and citations of state laws affecting the education of deaf children.

207. MACKANE, KEITH. *A Comparison of the Intelligence of Deaf and Hearing Children*. Teachers College Contributions to Education, No. 585. New York: Teachers College, Columbia University, 1933. Pp. viii+48.

From a study of the reactions of comparable groups of deaf and hearing children to three performance scales and a non-language test, the author concludes that "the performance scale and the non-language test measure different abilities, for the study plainly shows that the same deaf children may be less than a year retarded in their responses to performance scales and yet be two years retarded in their responses to the non-language test" (p. 44). A bibliography is included.

208. NORRIS, ANNE C. "Hard-of-Hearing Children," *Journal of Educational Sociology*, VI (February, 1933), 323-30.

A survey of findings with regard to methods of education of hard-of-hearing children. Summarizes the report in this field made by the White House Conference on Child Health and Protection.

209. "Problems of Schools for the Deaf in Common with Schools in General: First Committee Report on Chicago Conferences," *Volta Review*, XXXV (October, 1933), 405-10, 433-34; "Special Problems in the Education of the Deaf; Section C of the Chicago Round Tables," *Volta Review*, XXXV (November, 1933), 454-67.

Two reports of round-table conferences held in Chicago June 26 to July 27, 1933, under the auspices of the University of Chicago and the American Association To Promote the Teaching of Speech to the Deaf. The first article is

devoted to consideration of problems of administration of schools for the deaf
The second article deals with special problems of instruction.

DELICATE CHILDREN

210. EDER, HOWARD L. "The Undernourished Child," *Archives of Pediatrics*, L (September, 1933), 628-41.

Describes the work being done at Sunshine Cottage, a preventorium in Santa Barbara, California. The author holds that the under-nourished child requires a complete change of environment and that the best results may be obtained in a preventorium.

211. LININGER, FRED T. "Relation of the Use of Milk to the Physical and Scholastic Progress of Undernourished School Children," *American Journal of Public Health*, XXIII (June, 1933), 555-60.

Presents data on the relation of the use of milk to the progress of pupils enrolled in special health classes conducted by the division of medical inspection in the Philadelphia public schools over a two-year period. Positive results were obtained from the treatment given.

212. OPPENHEIMER, ELLA. "The Health of Children and the Depression," *Journal of the American Dietetic Association*, IX (January, 1934), 361-69.

The author reports on the extent of malnutrition which is developing throughout the country as a result of the depression and shows some of the possible effects in maladjustment and the development of physical defects.

SPEECH DEFECTIVES

213. BLUEMEL, CHARLES SIDNEY. "The Dominant Gradient in Stammering," *Quarterly Journal of Speech*, XIX (April, 1933), 233-42.

An address delivered at the annual meeting of the American Society for the Study of Disorders of Speech held at St. Louis, November 26, 1932. The author does not accept the dominant-gradient theory of Orton, Travis, and Bryngelson but considers it an important first attempt to solve the problem of stammering in neurological terms.

214. BROWN, FREDERICK W. "Personality Integration as the Essential Factor in the Permanent Cure of Stuttering," *Mental Hygiene*, XVII (April, 1933), 266-77.

The author questions: "Is it not probable that personality integration is the essential factor in the permanent cure of stuttering, by whatever method it is accomplished, and that the various methods are successful to the extent to which they serve as useful tools in bringing about a greater degree of emotional stability in the individual stutterer, both in his personal reactions and attitudes and in his social relationships?" (P. 277.)

215. JOHNSON, WENDELL. "An Interpretation of Stuttering," *Quarterly Journal of Speech*, XIX (February, 1933), 70-76.

An interpretation based on the result of an examination of all the important experimental studies of stuttering, the author's own study of the influence of stuttering on the personality, and an intensive introspective analysis of his own stuttering.

216. STINCHFIELD, SARA MAE. *Speech Disorders*. New York: Harcourt, Brace & Co., 1933. Pp. xii+342.

A psychological study of the various defects of speech, with considerable attention given to causative factors and to methods of educational therapy. Typical case studies are cited.

GENERAL REFERENCES

217. *The Handicapped Child*. Report of the Committee on Physically and Mentally Handicapped, William J. Ellis, Chairman. Section IV, The Handicapped: Prevention, Maintenance, Protection. White House Conference on Child Health and Protection. New York: Century Co., 1933. Pp. xxvi+452.

Considers physical, social, and educational problems involved in care of handicapped children. Bibliographies are included.

218. HOLMAN, PORTIA. "The Relationship between General Mental Development and Manual Dexterity," *British Journal of Psychology*, XXIII (January, 1933), 279-83.

The achievements on a ball-and-slot test of children with an average mental ratio of 103 were compared during four weeks of practice with achievements of children with an average mental ratio of 58. The former started at a higher point than the latter, but the two groups ended with no statistically significant difference between them.

219. JORDAN, A. M. "Parental Occupations and Children's Intelligence Scores," *Journal of Applied Psychology*, XVII (April, 1933), 103-19.

Among the children of manual laborers there are many more feeble-minded than chance would allow. However, the offspring of such fathers are nearer the norms of mental tests at six years of age than they are at thirteen years. This fact suggests that poverty of environment may contribute to the low scores of such children on group tests involving language, more particularly since the scores on non-language tests are higher.

220. LAYCOCK, SAMUEL RALPH. "Adjustments of Superior and Inferior School Children," *Journal of Social Psychology*, IV (August, 1933), 353-66.

Children who are intellectually superior make superior adjustments in spheres other than the intellectual, while inferior intellect is accompanied by inferior adjustments. The relation between degree of intellect and degree of adjustment is, however, far from perfect.

221. MARTENS, ELISE H. *Organization for Exceptional Children within State Departments of Education*. United States Office of Education Pamphlet No. 42 (1933). Pp. 36.

An analysis of existing provisions made in state departments of education for the organization and supervision of the education of exceptional children. Includes organization charts for the thirteen states in which a special bureau or division has been established for this service.

222. MILLAR, SEVILLE, and ODENCRANTZ, LOUISE C. "Vocations for the Handicapped," *Occupations*, XII (October, 1933), 18-28.

An article written from the standpoint of the vocational-guidance counselor, who is often confronted with the problem of advising in the occupational placement of a physically handicapped boy or girl. Handicaps of various types are analyzed, special difficulties met with in attempting to secure work are shown, and the jobs which persons suffering from handicaps of various types are best fitted to fill are described.

223. MOORE, MARGARET WHITESIDE. *A Study of Young High School Graduates*. Teachers College Contributions to Education, No. 583. New York: Teachers College, Columbia University, 1933. Pp. x+78.

Pupils graduating from Pennsylvania high schools before the sixteenth birthday tend to be intellectually superior, but among them are some of mediocre mentality. The results are based on a four-year cumulative record and indicate great need for better understanding of the individual pupil.

224. UNITED STATES OFFICE OF EDUCATION. "The Education of Exceptional Children," *Biennial Survey of Education*, 1930-32, chap. vi. United States Office of Education Bulletin No. 2, 1933.

A descriptive and statistical summary of the developments that have taken place in the education of exceptional children during the two-year period. Statistics are based on data for 1931-32 as reported by city school systems.

Educational Writings

REVIEWS AND BOOK NOTES

The mental and social development of children.—The lively contemporary interest in the early years of childhood is leading to the appearance of numerous research studies and systematic discussions of the mental, social, and physical aspects of child development. Jersild's book¹ is concerned primarily with the mental characteristics of childhood, but it includes chapters on social development, personality, and character. It is a systematic survey built chiefly on findings of research studies, including many of the author's own observations. An extensive bibliography of research literature is included. The point of view is scientific rather than pedagogical.

The book begins with a discussion of the sensory and the motor capacities of the newborn child: "Although we cannot peer into the mental life of the newborn child, careful observation of his behavior leads us to believe that there would not be much to see" (p. 1). There follows a brief but satisfactory account of the reflexes of the infant, of his responses to pain, taste, smell, light, sound, and temperature. The infant's behavior changes rapidly even during the first few hours of life. "*The factors which produce changes in behavior with age may be classed under two general headings: maturation and learning*" (p. 18). Aside from an increase in the number and the variety of a child's movements with increasing age, there occur two kinds of modification of already existing movement. The first is specialization: "Mass activity gives way to more specialized activity; the child's responses become more individualized where previously they were diffuse and generalized" (pp. 19-20). The second kind of change in behavior is brought about by conditioning in accordance with the principle that "a part of a past total stimulus may function for the whole" (p. 22). This modification of behavior very early in life is significant because "each new conditioned response that is established means a widening of the range of stimuli to which the child is susceptible, and this in turn means a widening of the scope of his behavior" (p. 23). In this statement Jersild shows a confusion of thinking of which he is seldom guilty. A "conditioned response" means the ability to respond to more and more specialized stimuli or the ability to make different responses than

¹ Arthur T. Jersild, *Child Psychology*. New York: Prentice-Hall, Inc., 1933. Pp. xiv+462, \$3 00.

were previously made in that situation. It is not so much a *widening* of the range of stimuli to which a child responds as it is a *specialization* of such stimuli.

The next two chapters are concerned with the motor and the language development of the infant. Norms of development are given. Three chapters on the emotions of children follow. Jersild recognizes that early emotional patterns are not fixed: "Infants during the first few days of life show a low degree of pain sensitivity, and many of them seem undisturbed by conditions which have been thought to cause anger; their 'rage' and 'defense' movements are likely to lack co-ordination, and they exhibit no uniform response to loud sounds or to the supposedly terrifying treatment of being dropped through space" (p. 65). He then gives an excellent discussion of the development of emotions in children.

The development of social behavior is described as a process of formation of habits with respect to parents, other infants, adults, and the social order. No use is made of the outworn concept of instinct.

"The process of learning consists of activities whereby reduced cues become effective in producing a response" (p. 169). Learning begins at birth. As a child grows older, "insight" is more frequently shown in the solution of problems, for "when a person shows 'insight' in reasoning and problem-solving, it means that he unhesitatingly employs a response which he has previously learned" (p. 175). Young children do not learn through intention: "The major part of the child's first learning comes as a functional part of his daily conduct" (p. 179). This principle is the key to motivation. Jersild presents a well-selected summary of the experimental literature on the nature and the course of learning in childhood.

The growth of understanding is treated as a process in which reduced cues come to operate in place of more comprehensive previous situations. "In his most crude 'reasoning' and his wildest imagining, [the child] is dealing with material that owes its origin to hand- and foot-work in concrete situations and to impressions that have come to him through his sense organs" (p. 225).

The development of intelligence, personality, and character, together with the means for measuring these traits, is discussed in the usual fashion. A final chapter on applied child psychology should be especially useful to parents.

The author's constructive contribution to the field of child psychology is to be found chiefly in his discussion of childhood emotions. His style is lucid and interesting. The typography is excellent. The book is a welcome addition to the field of elementary textbooks on child psychology and should prove valuable for college students of the subject, for teachers in nursery schools and elementary schools, and for parents.

C. E. RAGSDALE

UNIVERSITY OF WISCONSIN

A popular summary of the Payne Fund investigations of the effects of motion pictures.—In the interval from 1929 to 1933 a series of twelve investigations was conducted into the influence of motion pictures on the behavior of children.

These investigations were initiated at the request of the Motion Picture Research Council and were made possible by a grant from the Payne Fund. They cover numerous aspects of the general problem of child behavior in its relation to motion pictures, such as attendance at motion pictures, content of films, ideas gained and remembered, changes effected in attitudes, influences on emotional reactions, and contributions of motion pictures to delinquency and crime. The results of the investigations are available in a series of nine volumes published by the Macmillan Company. These reports, however, are in the main designed for research students. Fortunately, the committee in charge recognized the importance to the general public of many of the findings and made provisions for a popular summary. The task of preparing this popular account was assumed by Henry James Forman, and the result is the volume reviewed here.¹

In the main, this popular account follows the classification adopted in the original investigations. "Who Goes to the Movies?" is the title of the chapter discussing the findings of the study of attendance at movies. "What Do They See?" describes the results of a content analysis of some fifteen hundred films. Examples of other chapter titles are: "How Much Do They Remember?" "Movies and Sleep," "Horror and Fright Pictures," "Movies and Conduct," "Movie-made Criminals," and "Sex Delinquency and Crime."

In so far as the presentation of the data is concerned, the summary is an excellent one. The important data are included, the vocabulary is simple, and the style is most interesting. The author uses numerous illustrations from individual cases to give a dramatic touch. The reader readily gains the impression that motion pictures are a powerful influence and that they are powerful for two reasons: they are attended by large numbers and they produce extensive changes in those who attend, especially in children.

There are, however, several questions that may be raised when considering the author's interpretation of the data. In the first place, some of the influences of motion pictures which are interpreted by him as being undesirable may not necessarily be so. For example, reference is made to the dissatisfaction with parental control and home life which some children develop as a result of viewing motion pictures: "Many of the cases cited illustrate both the dissatisfaction and the lure. Twenty-two per cent of the high-school boys and girls studied by Professor Blumer declared that they had experienced feelings of resentment against parents as a result of certain motion pictures, and 12 per cent confessed to occasional experiences of actual rebellion" (p. 168). It is not possible to interpret these facts without reference to the character of the parental guidance. If this resentment was against unintelligent guidance, the interpretation would be different than if the resentment was against intelligent guidance. Again, the author cites the following examples of reactions toward crime.

"Movies have made me [a sixteen-year-old girl] less critical of criminals when I consider that all are not as fortunate as we. Starvation has been the cause of more crime

¹ Henry James Forman, *Our Movie Made Children*. New York: Macmillan Co., 1933. Pp. viii+288. \$2.50.

than anything else as I see it in the movies. As a result, I believe crime should be corrected instead of being punished for the latter encourages more crime." "Usually," says another, "crime pictures make me feel sorry for the criminals because the criminals probably do not get the right start" [p. 182].

These reactions cannot be considered altogether undesirable.

In the second place, it appears that more attention should have been given to the types of subjects used in some of the investigations. In the chapter "Movie-made Criminals," for example, the author draws several illustrations from delinquent children, many of whom testified that movies were at least contributing factors to their delinquency. More should be known about these subjects to determine why it is that they were influenced toward crime when a significant proportion of ordinary children do not appear to have been so influenced.

Finally, and in the reviewer's mind most important, there is a tendency toward a certain complacency with regard to the investigations. It is best summarized in the three concluding paragraphs of the book:

The aim of all the studies upon which the present book is based, as well as of the book itself, is to bring us face to face with the facts—and they are grave. Once in possession of the facts, the public, it is hoped, will find the remedies, for, after all, it is the public that is most vitally concerned. It is a social problem which touches everyone of us, "a critical and complicated situation," and by concerted thought and effort we must, imperatively, solve it.

The Motion Picture Research Council, originally instrumental in causing these studies to be made, will watch the expressions and comments of the public with keen vigilance and, by a careful scrutiny of these against the background of the materials of the research, will doubtless formulate its own conclusions and even, possibly, propose remedies.

At all events, the first great step has been taken and now, largely, the facts are known [pp. 283-84].

The reviewer takes definite exception to the general idea that "now, largely, the facts are known." There is some reason to believe that some of the important facts are still not known. This statement does not mean that the Payne Fund investigations were poorly done. Quite the contrary! It means that the task is not yet finished. The investigations answer the general question: What are the effects of motion pictures on children as they now are, that is, under present conditions of education and environment? It is important to know what these effects are, but it must be remembered that these effects are relative to the environment in which the child lives. In proposing remedies, we must know what the effects would be if we changed the child's education and other environmental factors. Suppose, for example, that adolescents were given adequate courses in sex education and orientation courses in the nature of the social world in which we live. What movies would they then patronize and what would be the effects? Or suppose we go one step farther to another significant factor in the child's environment—the attitudes of adults, especially the attitudes of parents. What, for example, would happen to the resentment some children evidence if parents

should suddenly become highly intelligent in the guidance of children as a result of highly effective courses in parental education? What would happen if parents held attitudes essentially favorable to the development of self-reliance in children instead of the unfavorable attitudes which actual measurement has shown now prevail? It is interesting to speculate what would happen to the box-office receipts, especially those derived from children, if we had more adequate playgrounds and play materials than we now have, more adequate social and sex education, greater social recognition of creative work, and an enthusiasm for the great enterprise of man—devising, through careful testing, methods of living together that increasingly enrich life for everyone. Happily, the present environment is not absolute nor fixed, and we cannot afford to overlook that fact. Perhaps we can devise motion pictures to increase the effectiveness of education in the fundamentals of living.

These questions, however, all relate to the interpretation of the data. Mr. Forman's presentation is most interesting, and the general public should consider itself fortunate in having it. The Payne Fund is to be congratulated in its foresight in making the findings available in this interesting and popular form.

R. H. OJEMANN

UNIVERSITY OF IOWA

A critical analysis of the theory and practice of the fusion of social studies.—For the past dozen or so years there has been much consideration pro and con of the theory and practice of fusing the social studies at the junior high school level. During these years there was a paucity of factual material on which either those who favored or those who opposed fusion could base their conclusions. This situation was clarified somewhat during 1933 when a critical analysis of the movement was published.¹ Those who are interested in the factual aspects of the fusion movement will welcome this publication.

In treating his subject, Wilson, after clearly stating the purpose of his study, presents a comprehensive survey of the practice of fusion. This survey is followed by an exposition of the theory of fusion and the historical background of the fusion controversy that waxed and waned during most of the 1920's. About half the volume is devoted to these aspects of the subject, the remainder being concerned with "Fusion and the Selection of Functional Curriculum Content," "Fusion and the Organization of Subject Matter for Teaching Purposes," and "The Limited Usefulness of Fusion." An excellent bibliography is appended to the discussion.

The chapter on the practice of fusion is largely concerned with a description of the fusion set-ups in the social studies in ten centers. The diverse character of fusion practice is clearly set forth in the chapter. With a feeling that practice alone is not a sufficient foundation on which to base one's idea of fusion, Wilson

¹ Howard E. Wilson, *The Fusion of Social Studies in Junior High Schools: A Critical Analysis*. Harvard Studies in Education, Vol. 21. Cambridge, Massachusetts: Harvard University Press, 1933. Pp. 212. \$2.50.

passes from his discussion of practice to a consideration of theory on the assumption that practice has not been able to keep pace with theory. In examining the available data bearing on the theory of fusion, the author discovers that there are theories rather than a theory of fusion. Even so, there seem to be certain common elements in the various theories, namely, the concepts of a functional curriculum and of organizing functional data in lifelike ways, sometimes in units and sometimes in problems or projects. Some fusionists recognize subject boundaries, and some do not.

The chapter on the background of the fusion controversy is somewhat comprehensive. Inasmuch as the fusionists insistently attack the traditional course of study and traditional subject lines, considerable attention is given to an explanation of what "traditional" is. This explanation is of a historical nature. Beginning with the report of the Committee of Seven of the American Historical Association in 1899, the story is told of the ups-and-downs of history and the other social sciences in the schools during the past generation. From the facts presented in this story the conclusion is drawn that the fusion controversy during these years was not a two-sided but a three-sided matter, it being necessary to weigh the merits of fusion against the merits of traditional courses and the merits of "progressive" courses in single subjects against both of these. Growing out of this conclusion is the one that the fusionists must specify the un-lifelike character of progressive courses in special subjects.

In the chapters on fusion and the selection of functional content and on fusion and the organization of subject matter for teaching purposes, consideration is given to the meaning of functionality, activity-analysis and fusion, attempts to discover "natural units of learning" and the factors limiting their establishment, and the differences between fusion and subject units. Each of these topics is critically treated. The conclusions emanating therefrom are (1) that "the theory on which subject-teaching is based would seem to offer greater educational possibilities than does the fusion theory" (p. 185); (2) that "there is no guaranty in either the fusion theory or the subject theory that courses constructed according to the dictates of either will thereby achieve their greatest potentialities" (p. 186); (3) that "subject courses, on the average at present, may more nearly approximate their ideal than fusion courses" (p. 187); and (4) that fusion "is useful as an occasional variant from subject approach," (p. 190).

On the whole, the volume presents an able and unbiased treatment of a highly controversial subject. It deserves a critical and open-minded perusal by persons who desire to base their conclusions on facts rather than on mere opinion.

R. M. TRYON

A study of the views of teachers on controversial issues.—During a period of rapid social reconstruction many educational issues naturally arise. The present decade is not an exception to the rule. On every hand one hears vigorous discussions of both fundamental theories and basic principles. Apparently, there is

wide divergence of opinion concerning them. In an effort to determine what the consensus of opinion is, if any, with respect to many of these issues, Peterson¹ carried on an investigation among 551 staff members of teachers' colleges and 30 professors of education and graduate students.

The purpose of the study was twofold: "(1) to develop a method, including some form of instrument, of discovering the views upon certain crucial educational issues held by the teaching personnel in institutions for the professional preparation of teachers, and (2) with the method and instrument thus developed, to make an intensive study of the theoretical positions held by the staffs of a number of teacher-training institutions in America" (p. 2).

The report of the study is presented in seven chapters. Chapter ii gives a detailed account of the construction of "the instrument" which was used in securing the judgments of co-operators concerning strategic questions in present-day life and education and of "the questionnaire" which aimed to secure information from each co-operator concerning his preparation, experience, and the like and opinion on certain educational matters which required only a minimum of judgment. Chapter iii defines the seven categories in terms of which the seventy-nine statements which ultimately formed the questionnaire are organized. The terms of each category are designed to suggest opposing views, for example: static-dynamic, academic-direct life, science-philosophy, traditional individualism-socialization, heredity-environment, passive-active, and separate mind-naturalistic view. Chapter iv discusses the validity and the reliability of the instrument, and chapter v considers the routine followed in securing co-operation and the procedures adopted in administering the materials and conducting the study. Chapter vi presents an analysis and interpretation of the data secured, and chapter vii discusses the conclusions of the study and outlines possibilities for further research.

The critical issue that arises concerning the methods employed by Peterson relates to the validity of the assumption that a person's position on a specific issue can be accurately determined by asking him to indicate whether he agrees or disagrees with a particular statement and the extent of his agreement or disagreement. The reviewer's position, for example, on the first issue listed ("The purpose of education should be essentially to prepare boys and girls for the activities which make up, or which ought to make up, well-rounded adult life" [p. 12]) cannot be adequately represented without certain verbal qualifications. The absence of such qualifications and explanations makes it impossible for the investigator to determine the exact position of the co-operator and the consistency of his responses. Peterson recognized the limitations of his procedure but be-

¹ Francis Edwin Peterson, *Philosophies of Education Current in the Preparation of Teachers in the United States: A Study of Four State Teachers Colleges, Twelve Normal Schools, and Nine Liberal Arts Colleges*. Teachers College Contributions to Education, No. 528. New York: Teachers College, Columbia University, 1933. Pp. vi+147. \$1.50.

lieved that it was sufficiently accurate to justify conclusions concerning trends in thinking for the group as a whole.

Some of the chief conclusions of the study are: "To a significant degree, teachers are not aware of the more subtle implications and assumptions which underlie the positions for which they declare themselves on the various issues" (p. 122). "Teacher opinion is in considerable degree 'sloganized' in the case of educational trends. . . . Many teachers lack a unified point of view" (p. 122). While these statements doubtless represent the truth to a greater or less extent, they are not clearly and directly supported by the type of data secured in the study. Other conclusions are more clearly justified by the data, for example: "The members of each of the teaching staffs differ widely among themselves with reference to their general point of view on educational problems" (p. 122). "The liberal-arts college tends to be more academic and 'formal' in its educational thought and practice than the institution for the preparation of teachers" (p. 123). "The professors and the staff of a private church college stand at the two extremes in voting" (p. 123). Even in these cases it is more than probable that the differences would have been less marked and the conclusions considerably qualified if the responses of the co-operators had been accompanied by qualifications and explanations.

The chief contribution of the study, in the judgment of the reviewer, relates to the identification and classification of issues. The summaries of the responses are suggestive. Their interpretation may be questioned at points because the position of the co-operator may or may not be fully indicated.

W. S. GRAY

Community hygiene for elementary-school grades—A recent textbook in community hygiene is the last book of "The Story Series in Health," designed for the first six grades of the elementary school. The book tells of the experiences of a class of children in an imaginary city, Brightville. The children with their teacher and a newspaper reporter, "Uncle Jim," make trips in a large bus, "the health school on wheels," to factories, markets, dairies, and various other places in the city where work is going on which contributes to the healthfulness of the city.

Each chapter of the book is in the form of a newspaper report, presumably written by "Uncle Jim" for "The Brightville Citizen." "Our Water Supply Is Safe," "A Trip to the Barber Shop," "Seeing the Immigrants Come," and "How Brightville Fights Illness" are representative chapter headings. Much of the text is in conversational form; with their teacher and other adults the children discuss questions raised by their trips. At the end of each chapter, under the heading "All around Our Town," there are paragraphs supposedly written by the children, the teacher, or the reporter and posted on the school bulletin board.

¹ J. Mace Andress and I. H. Goldberger, *The Health School on Wheels*. Boston: Ginn & Co., 1933. Pp. viii+400. \$0.76.

These paragraphs are comments on the trips taken or suggestions for further study. For example, among the paragraphs at the end of the chapter "How Brightville Fights Illness" are the following three.

My visit to the health department this afternoon taught me that "health costs effort, but health is worth the effort it costs."—*Edgar*

I am going to ask my doctor how illness increases the cost of living. I will make a report to the class. Won't you do the same? Who will ask the same question of someone who employs a number of workers in his factory or store?—*Marjorie*

Who will tell me what illness has to do with poverty? How much of our community's illness can be prevented?—*Eleanor*

As a rule, one paragraph at the end of each chapter directs attention to the new vocabulary of the chapter. For example, at the close of the chapter on water supply, we find:

The study of our water supply has led me to use the dictionary. Here are several new words. Would you add more? aeration purification dysentery iodine watershed chlorine cholera filter polluted aqueduct—*Blanche*

In an introduction the authors state that, "while the book is intended primarily as a textbook on health, its social and civic point of view should make it useful in civics classes" (p. vi). The desire on the part of the authors to make the book serve a twofold purpose doubtless accounts for the inclusion of some material which one does not expect to find in a textbook on health—the discussion of etiquette on pages 32 and 33, for example, and the chapter "How Our City Fights Fires." A tendency to stray away from the main issue is obvious also in the children's suggestions at the ends of certain chapters. To illustrate, at the conclusion of the chapter about factory conditions, two of the five suggestions have nothing to do with health; at the conclusion of the chapter on fire-fighting, four of the five suggestions do not concern health.

The book contains much well-chosen and interesting factual material. The authors assure us, moreover, that the facts "are as authoritative as if they were presented through a more formal text" (p. iv). The desirability of presenting factual material as it is presented here is, however, open to question. The authors clearly hope that their method of presentation will lead teachers who use the book to arrange for a first-hand study of various aspects of health, will stimulate children to take an active part in directing the work of their health classes, and will lend interest to the factual material. The method used should indeed go far toward accomplishing the first two objectives noted, although another method might serve equally well in the attaining of those objectives and, at the same time, be less space-consuming. That children will be more interested in the material as the authors have presented it than they would be in a straightforward account of conditions in real cities and of the work which real cities are doing is by no means certain. Surely, to many a reader, the stories of how New York, Chicago, and Los Angeles, have obtained their water supplies would be more thrilling than the story of the water supply of imaginary Brightville, and

an account of the work carried on at Ellis Island could easily be made as entertaining as is the account of the work of the Brightville immigrant station. The children of the book, with their many suggestions and comments, are admirable, but it is difficult to believe in them. Much of the conversation is stilted. A considerable amount of space, moreover, is given to rather pointless narrative material—irrelevant material of a type which, the reviewer has found, causes impatience in children of the intermediate grades.

Among the book's many illustrations there are graphs, cartoons, photographs, and wash drawings. Some of the illustrations contribute little toward the primary aim of the book; they serve merely to illustrate the story. Others, however, should be helpful in leading children to arrive at the major understandings concerning community hygiene.

In conclusion, although the book has a number of good features, the reviewer thinks of it as representing a type of "writing down" which, while probably not harmful, is unnecessary

BERTHA M. PARKER

Textbooks in history for the upper elementary grades—To present "history as a single great adventure, a never-ending movement of mankind" is the purpose of "The Westward March of Man," a new four-volume series for the upper elementary grades edited by Daniel C. Knowlton. This review concerns itself with the first two volumes¹ in this series.

The first volume allots almost exactly equal page space to each of the following major topics: "The Earliest Times," "The Earliest Men," "The First Civilized Nations," and "The Greeks and the Romans." The book contains numerous illustrations and seven maps, all in black and white.

The second volume is made up of five parts. "War and Destruction" (the barbarian invasions and the rise of the Mohammedans), "New Nations in an Old World" (Charlemagne's empire, the Norsemen, and England to 1295), "The Way People Lived Seven Hundred Years Ago," "Days of Great Adventure" (the Crusades, the growth of towns, the Renaissance, and the search for a water route to India), and "Finding a New World" (exploration, and Spanish and French colonization to about 1700). The emphasis in this book is on the last topic. There are numerous illustrations and fifteen graphic "picture" maps in the manner of *Time*.

It is a delight to review books which are equally meritorious whether considered from the point of view of effective organization for teaching purposes or from that of content. The authors have skilfully written overviews for each major topic and have just as skilfully "pulled things together" in concluding remarks at the close of each topic. Mr. Gerson, in his brief statement "To the

¹ a) Daniel C. Knowlton and Armand J. Gerson, *Our Beginnings in the Past: A First Book in History*. Chicago: American Book Co., 1933. Pp. xii+242

b) Daniel C. Knowlton and Mary A. Wheeler, *Our Past in Western Europe: A Second Book in History*. Chicago: American Book Co., 1933. Pp. xiv+346

Teacher," points out that he has given special consideration to vocabulary, to illustrations, and to suggested pupil activities. Miss Wheeler does not make such a claim but certainly is entitled to do so.

Both authors display unusual skill in writing vividly and interestingly although limiting themselves to a child's vocabulary. When technical terminology and new words are used, these are developed and explained in the context. In the case of difficult proper nouns and foreign terms, the correct pronunciation is indicated in parentheses immediately following. The illustrations usually carry an explanatory statement; for example, "A raft on the Euphrates River. In both ancient and modern times sheepskins filled with air have been used to make the rafts float." The authors also refer both directly and indirectly to the illustrations in their development of the text. The "Interesting Things To Do," which are placed at the end of various divisions of content, cover a wide range of purposeful pupil activities. This reviewer is especially impressed by the attention to drill on the meanings of words and the effective way in which the pupil is brought to have an interest in doing extensive reading in a comparatively few well-chosen supplementary reference books.

Both volumes contain sound history. *Our Past in Western Europe*, for example, discusses adequately and fairly such topics as the reason for the search for a water route to India, the significance of the defeat of the Armada, and conditions in the Spanish colonies. In a book intended for fifth-grade pupils Miss Wheeler makes surprisingly effective use of source materials. Thus, she cites Einhard's description of Charlemagne, presents pictures of sections of the Bayeux tapestry in her discussion of the Norman conquest, and quotes from Cortes' letters to his king in her treatment of the conquest of Mexico. The unit dealing with "The Way People Lived Seven Hundred Years Ago" is the most effective short discussion of medieval life that this reviewer has read.

In conclusion, it may be well to mention some "sins of omission and commission" which the authors can easily remedy, if they see fit, in subsequent printings. The statement that the first alphabet was invented by the Phoenicians should probably be qualified. The same probably holds for the last part of the comment that during Solomon's time the Hebrew people were peaceful and well off. On the page with the latter statement appears a picture showing David hurling the stone which killed Goliath. Any American boy who plays baseball will probably doubt that David ever assumed the pose in which he is pictured. In chapter ix, "How Men Learned To Write," it might be well to make some mention of clay tablets and cuneiform writing. In *Our Past in Western Europe* two statements are made which may be questioned. It is unlikely that Marquette and Joliet, on their journey down the Mississippi, saw an Indian village about where the city of Des Moines is now located, as is stated on page 300. Also, Henry Hudson sought a northwest rather than a northeast passage around America.

HOWARD R. ANDERSON

UNIVERSITY OF IOWA

Basic readers for foreign-born adults.—During the last few years much attention has been given to the needs of foreign-born adults who are unable to read. Vocabulary lists have been developed, improved reading materials have been prepared, and several experiments have been carried on to determine the best methods of teaching foreigners to read English. One of the recent contributions is a much-needed series of basic readers,¹ three in number, which not only introduce the adult to very simple reading activities but in addition carry him forward to the level of functioning literacy. This series is the result of the wide experience of Josephine Dwight Mason and Gertrude E. O'Brien, of Springfield, Massachusetts, in teaching foreign-born adults to read.

The content of the series is distinctive in several ways. It is based first of all on adult needs and interests. For example, Book I begins with the reading of signs encountered in adult life. The materials relate largely to the activities and experiences of adults in large cities or industrial centers. Book II provides information concerning the institutions and the activities of organized community life with which all adults should be acquainted. Book III gives an interesting account of the development and growth of the United States, of its natural resources, and of its inventions and provides a valuable background for specific instruction in an Americanization class.

The vocabulary includes the words which are of greatest immediate value in simple adult reading activities. According to the authors, an adult should be familiar by the end of Book III with most of the words included in newspapers, magazines, and simple books. This knowledge, of course, is one of the desirable goals of instruction in reading. The principle of practical utility followed in selecting the vocabulary for this series is quite in contrast with the principle underlying the Basic English Vocabulary, which is now being used experimentally in some centers in developing reading materials for adults. It is hoped that the experiments now in progress will supply evidence concerning the relative advantages of the two types of basic vocabulary. An important question also arises concerning the number of new words introduced in each book. Unless much supplementary material is used, there is danger that the various words presented will not be thoroughly learned.

The books include numerous review and test exercises, as well as helpful summaries which call special attention to the most important points presented. Teachers' editions have been prepared for Books I and II, which provide detailed suggestions concerning the methods of introducing the lessons, of promoting vocabulary mastery, and of securing growth in comprehension. Teachers of non-reading, foreign-born adults will find this series very helpful in providing the basic reading experiences needed. It is based on sound principles and has been prepared with great care. Furthermore, its practical value has been clearly demonstrated through experimental use.

W. S. GRAY

¹ Josephine Dwight Mason and Gertrude E. O'Brien, *A Practical Reader for Adults*: Book I, pp. iv+138, \$0.72; Book II, pp. vi+158, \$0.76; Book III, pp. viii+230, \$1.12. Boston: D. C. Heath & Co.

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IS THERE A CONSPIRACY AGAINST PUBLIC EDUCATION?

In a recent radio address J. B. Edmonson, dean of the School of Education of the University of Michigan, made a penetrating analysis of certain proposals affecting public education in this country. The following paragraphs are quoted from Dean Edmonson's address.

Is there a conspiracy to destroy the free public school system of America? In answer to this question it should be noted that there are insidious proposals for changes that are more menacing than a real conspiracy. It is surprising how many intelligent and well-meaning persons have not understood the real significance of the proposals and have been misled by their seeming fairness. So far as I can determine, there is no nation-wide organized conspiracy in the usual sense, but the support secured for certain menacing proposals is such as strongly to suggest a real conspiracy with shrewd and aggressive leadership.

It is my opinion that there are three dangerous proposals affecting free public education which are of the kind that a group of clever conspirators would advocate. The first of these proposals is that *public schools shall continue to be almost wholly supported by the local community through the local property tax*. This proposal seems plausible until it is critically examined. I know of no more certain way to destroy the possibility of realizing our ideals of equal educational opportunities than to place the full responsibility for the financial support of schools

on the local school districts. The vast inequalities of per capita wealth in neighboring communities within a state, as well as between states, would tend to destroy all chances of equality in educational opportunities if too heavy a responsibility for the maintenance of schools were placed on the separate school district. If the proposal to treat education solely as a local function gains general acceptance, we may expect that thousands of American children will be denied the educational opportunities defined in the Children's Charter as adopted by the White House Conference of 1930.

A second proposal that is menacing to the cause of free public education is the recommendation that *public education should restrict its program by the introduction of tuitions and fees for instruction beyond the elementary grades*. Such a proposal would restrict the educational opportunities available to the children of the poor and others of limited means. It would mean the introduction of the European point of view which emphasizes education above a minimum level as the privilege of certain social classes. In all other countries except the United States, education has generally been considered in terms of social and economic classes. Our country is committed to a democratic rather than a class system of education. If a plan of fees and tuitions for high-school instruction were introduced, it would lead to the development of one school system for the children of the privileged classes and another school system for the children of the masses. It is important to recall that the American public school represents our most concrete realization of the democratic idea of equal opportunity for all. The proposal to restrict free public education by the introduction of tuitions and fees constitutes a vicious attack on the opportunities that America has held out to the children of those of limited financial means. The general acceptance of the proposal would greatly curtail the program of free public education and would eventually destroy it.

The third proposal that would undermine public education is that *the program of our public schools should be reduced by eliminating the types of instruction that parents of wealth are quite certain to provide for their children*. It is common knowledge that the people who make the most violent objections to the alleged elaborateness of public education are often the ones who send their own children to private instructors or to special schools to obtain the very kinds of training which these critics deplore for other people's children at public expense. It should be observed that parents who can afford to do so usually arrange for private instruction for their children in music, art, and dramatics. They also provide adequate safeguards for the health of their children and spend fair sums of money for wholesome recreation. For their younger children they provide the equivalent of kindergarten instruction. Many of these wealthy parents are strong advocates of these advantages for all children, regardless of the economic status of their parents, through the agency of the public schools. There are, however, some persons who are so selfish and penurious that they would deprive the children of the poor of a well-rounded program of training.

These proposals find generous support among those who believe that Ameri-

ca's economic resources are so limited that there must be a marked decrease in the educational advantages offered to our children. The acceptance of this point of view by many leading citizens of wealth and influence constitutes a dire threat to the continued support of the present program of public education. Some of these persons would try to justify the shortsighted and, in some instances, corrupt mismanagement of our economic affairs by charging that our expenditures for the education of children are the prime cause for our various economic ills. The absurdity of such an opinion is apparent when one compares the small expenditures for education with the tremendous losses in income that have been occasioned by incompetent and dishonest management in certain fields of finance. It should be remembered that our recent losses of forty-five billion dollars would, if properly invested, furnish enough money to finance the present program of public education without any additional funds from taxes. Friends of public education should be quite insistent that leaders of taxpayers' leagues and representatives of certain financial interests are not permitted to unload the cost of financial blunders on children now enrolled in our public schools and those of the oncoming generations.

These proposals also are supported by those persons who favor a reduction in taxes to a point that would threaten the support of all services of government. Every service of government is now threatened by the lack of a sane and wholesome attitude toward taxation. School officials should resist efforts to destroy the confidence of the people in the integrity and honesty of our governmental officials and in the value of the co-operative service furnished by governmental agencies. Unless taxes are paid, free public schools cannot be made available to the children of all the people, and certain other services of government will have to be withdrawn or greatly restricted.

It is encouraging to find that an increasing number of lay organizations are becoming aware that the equivalent of a conspiracy against public education is abroad. Public-school officials should feel obligated to keep such organizations informed of the real facts and should actively seek the co-operation of such organizations as are concerned with the welfare of American children and the perpetuation of our democratic ideals and institutions. The cause of public education will not be injured by any of the menacing proposals, provided the real meaning and ultimate significance of the proposals are brought into the light of day.

AN INEVITABLE RESULT OF THE POLITICAL DOMINATION OF THE CHICAGO SCHOOLS

It is common knowledge that the Chicago Board of Education is subservient to, and dominated by, the political forces which control the municipal administration of the city. It has long been obvious, too, to anyone having any understanding of how a school system should be conducted that the policies of the Chicago Board of Edu-

cation could have no other result than a material impairment of the efficiency of the schools under its control. In the stubborn pursuit of its policies the board has refused to be influenced either by enlightened public opinion or by the advice of competent educational leadership. It has ignored and violated the recommendations of the survey of the city schools made by a former board at a cost of \$100,000. In its budgets it has consistently and persistently subordinated the interests of educational administration to the interests of business administration. It has denied to its superintendent of schools that voice in its councils which is contemplated by law and which is dictated by sound principles of public administration. All these things and more it has done in the face of persistent opposition by enlightened citizens. No person at all familiar with the facts will be in the least surprised, therefore, that the Chicago Board of Education has received a merited rebuke from the North Central Association of Colleges and Secondary Schools. That association, after careful investigation, has unanimously adopted a report declaring ten Chicago high schools ineligible for accrediting. The report also indicates that the great majority of the public high schools in the city are not meeting fully one or more of the standards set up by the association.

The report makes it perfectly clear that the inefficiency of the Chicago high schools is not due primarily to reduced budgets nor to the notorious failure of the Board of Education to pay its teachers. Neither does the report reflect on the character of the service rendered by the superintendent or by the supervisory and the teaching staffs. In fact, the superintendent, the principals, and the teachers are commended for the quality of the service that they have rendered under "unusually adverse conditions." Full and complete responsibility is placed on the Board of Education.

The following paragraphs are quoted from the report adopted by the association.

(2) The plan of having three independent heads to a school system, namely, the superintendent of schools, the business manager, and the legal adviser, is not usually conducive to economic and efficient operation. This plan which exists in Chicago is embodied in the law and cannot be changed except by a change in the law. There is nothing in the law, however, which makes it mandatory for the superintendent of schools to turn over to any other head or to the board

certain educational functions and administrative duties which he has been forced to turn over this year. It was possible for Chicago in former years even under such a plan to have the working relationships between these three heads of the Chicago system such as not to impair seriously the quality of instruction. When, however, under such a plan, the superintendent of schools is forced into a situation where he is no longer the educational administrator and educational expert of the Board of Education, the situation is likely to develop into one which seriously affects the quality of instruction in all high schools and all departments of those schools. The superintendent of schools of Chicago has during the present school year practically been forced to carry out orders from the Board of Education pertaining to the details of the educational administration of the high schools. It is evident that many of the orders given by the Board of Education were not based on sound educational advice with the result that the situation is reflected in the classroom. Some of the policies of the Board of Education which the superintendent of schools has been forced to carry out are unquestionably impairing the efficiency of instruction and lowering the general intellectual and moral tone of the high schools.

It is recommended that those in charge of the general administration of the Chicago high schools be advised that the association does not feel that Standard 5 is at the present time fully met and that improvement with respect to this standard must be made in the very near future.

"Standard 5—Instruction and Spirit: The efficiency of instruction, the acquired habits of thought and study, the general intellectual and moral tone of a school, and the co-operative attitude of the community are paramount factors, and therefore only schools that rank well in these particulars, as evidenced by rigid, thoroughgoing, sympathetic inspection, shall be considered eligible for the list." . . .

(4) Attention is invited to the fact that the teaching load of a large proportion of the teachers of Chicago is very heavy. Recommendations pertaining to the teaching load are made below in connection with each individual high school. . . .

(6) The Illinois State Committee recommends that the North Central Association advise those in charge of the general administration of the high schools to adopt some plan which will insure that every teacher employed in the high school is qualified to teach the subjects assigned. The system adopted should be such that it would not be possible for a principal to assign to a teacher a subject in which he is not prepared. . . .

(7) The State Committee recommends that the association advise those in charge of the general administration of the Chicago high schools to give attention to the matter of improving the school libraries and library service. Special attention should be given to library facilities for the standard evening-school pupils and to the libraries located in those schools indicated elsewhere in this report as being badly in need of improvement.

(8) The Illinois State Committee wishes to advise the association that the

ten newly organized high schools of Chicago are not at this time eligible for accrediting by the North Central Association for two general reasons:

(a) *These schools have been in operation for a period of less than one year,*

(b) *These new high schools are not at this time on the highest list of accredited high schools in the state of Illinois. On April 8, 1934, at a meeting of the Committee on Admissions from Secondary Schools for the University of Illinois and representatives of the Office of the Superintendent of Public Instruction, it was voted not to recognize and not to accredit these schools at this time but to give them the same status as that held by schools for which action on recognition and accrediting has been suspended.*

The action of the North Central Association should be of deep concern to the citizens of Chicago. It should serve to convince them of the necessity of putting an end to the control of the city's schools by a politically dominated board of education. Moreover, citizens throughout the country should not fail to profit by Chicago's experience. That experience makes it clear that the control of city school systems by lay boards of education which refuse to be guided by competent educational leadership is disastrous and intolerable.

A SCIENTIFIC APPRAISAL OF COMMERCIAL CORRESPONDENCE COURSES

The commercial correspondence school, with its patrons running into the hundreds of thousands, has come to be a significant educational institution or, perhaps it would be better to say, has come to symbolize an important educational problem. The significance of the problem is readily appreciated when it is pointed out that in the years immediately preceding the depression, according to the best evidence available, there were enrolled in commercial correspondence schools more than twice as many students as were enrolled in all the colleges and universities combined. There have been, of course, a great many opinions with respect to the value of correspondence study as conducted by these correspondence schools, but until recently no serious attempt at scientific appraisal of their work had been made. The report of an investigation making such an appraisal is, therefore, both timely and significant. The investigation was conducted by Charles Bird and Donald G. Paterson, of the Employment Stabilization Research Institute of the University of Minnesota, and is reported in a bulletin of that institute bearing the title *Commercial Correspondence Courses and Occupational Adjustments of Men*.

making their analysis of the effectiveness of commercial correspondence courses, Bird and Paterson used data obtained from the histories of 294 men who had registered with the Employment Research Institute for the purpose of obtaining vocational guidance. All these men had at some time been enrolled in correspondence courses. At the time of their interview with the members of the institute staff, 191 of these men were unemployed; 103 were employed. In defending their investigation against the charge that selective factors may have operated to invalidate the general results, the investigators comment as follows:

If the study been confined to unemployed men, one might have concluded the disappointing results of "learn-by-mail" courses here shown are a result rather on the character and ability of the "economic failures" who seek help in the Occupational Analysis Clinic than on the schools, which did nothing they could to help such unfortunates succeed. But it must be remembered that the unemployed men studied by the clinic were not "down-and-out" or the most part, they were average folks who happened to be the victims of devastating depression. Furthermore, the group studied included a sample of steadily employed men. The similarity of the results for the two main forces one to conclude that the ineffectiveness of such commercial courses is generally.

One of the striking facts revealed by the investigation is the high rate of mortality among the correspondence students investigated. Notwithstanding the fact that \$120 was the estimated median price for a correspondence course, 40 per cent of the students dropped out of courses before the end of the first year, 75 per cent before the end of the second year, and only 6 per cent of the entire group carried their courses to completion. In general, mortality was greater among the unemployed than among the employed men, although, as we may see from an examination of Table I, the percentages of mortality were strikingly high in both groups and in all courses.

In order to appraise the practical value of correspondence study for the men included in the investigation, the investigators decided to apply the following standards: (1) Has the student ever been employed as a worker in the field indicated by the title of his correspondence course? (2) Is his chief occupation the one denoted by the title of his course? and (3) Is the occupation for which the institute deems him to be best fitted the one denoted by the title of his correspondence course? Table II indicates the extent to which these

correspondence students chose courses outside their occupational fields.

The staff of the Occupational Analysis Clinic of the Institute made a careful study of all available information in order to determine the occupation for which each of the 294 men was best qualified. In reaching its conclusion, the staff took into consideration such factors as "occupational history and social background, opportunities for securing employment in a particular field, preparation, includ-

TABLE I

PERCENTAGES OF MEN ENROLLED IN CORRESPONDENCE COURSES WHO FINISHED COURSES AND WHO DROPPED THEM AFTER VARIOUS INTERVALS

Type of Course and Group	Number Enrolled	0-5.9 Months	6-11.9 Months	One Year	Two Years	Three Years	Four Years	Completed
Accounting:								
Unemployed	33	24.2	21.2	27.3	9.1	15.2	3.0	0.0
Employed	25	8.0	16.0	32.0	20.0	8.0	0.0	16.0
Business training:								
Unemployed	53	37.8	18.8	24.5	9.4	3.8	1.9	3.8
Employed	27	29.6	14.8	44.5	3.7	0.0	0.0	7.4
Engineering:								
Unemployed	36	19.5	11.1	41.7	11.1	8.3	8.3	0.0
Employed	19	10.5	26.4	42.0	5.3	0.0	10.5	5.3
Mechanics:								
Unemployed	30	20.0	13.4	36.6	20.0	0.0	0.0	10.0
Employed	12	8.3	16.7	50.0	8.3	0.0	0.0	16.7
All courses, both groups.	235	23.0	17.0	34.8	11.1	5.1	3.0	6.0

ing vocational and academic training, performance in occupational-ability tests, occupational-interest patterns, and the physical status of the individual as revealed by medical examination." The extent to which the occupations recommended coincided with the occupations in which students had taken correspondence courses is indicated in Table II.

The general conclusions of the investigation are quoted in full.

1. One of every ten men coming under the direction of the unemployment clinic had registered in correspondence-school courses. The home-study courses participated in by the 294 men with which this study is concerned could be definitely identified with a specific occupation; only eleven men had taken courses of such a general character as to defy occupational classification. It ap-

pears, therefore, that men are led to register in correspondence schools with the object of improving their position in an occupation or of bettering their type of occupation.

2. Although the estimated median cost of a correspondence course to the men in this group was \$120, at least 40 per cent of the group for whom registration data are complete dropped out of the courses before the end of the first year, and two-thirds fell by the wayside before the end of the fifteenth month. The mortality is particularly high among men taking courses in business training; 38 per cent of the unemployed and 30 per cent of the employed men in this group gave up their courses before the end of six months. Of the 235 men who

TABLE II
DATA INDICATING EXTENT TO WHICH 294 MEN ENROLLED IN CORRESPONDENCE STUDY TOOK APPROPRIATE COURSES

TYPE OF COURSE AND GROUP	NUMBER ENROLLED	PERCENTAGE OF MEN		
		Employed at Some Time in Occupation In Line with Course	Whose Chief Occupation Was In Line with Course	Whose Rec- ommended Oc- cupation Was In Line with Course
Accounting:				
Unemployed	51	35.3	15.7	17.7
Employed	34	38.2	11.8	26.5
Business training:				
Unemployed	61	18.0	9.8	13.1
Employed	34	26.5	17.7	20.6
Engineering:				
Unemployed	43	9.3	9.3	11.6
Employed	22	13.6	13.6	18.2
Mechanics:				
Unemployed	36	52.8	44.5	47.2
Employed	13	53.7	46.0	38.4

stated that they had terminated their contacts with correspondence schools, only 6 per cent indicated that they had carried their courses to a successful conclusion. It is possible that more men actually did complete their study, but in any case the total number would be small, since very few persisted beyond the second year. *An important cause of the excessively high mortality is the failure on the part of these schools to select men with sufficient ability to pursue the courses offered or to give adequate vocational counsel.*

3. The application of three standards for judging the occupational value of correspondence training reveals a wide discrepancy between the claims made for the courses and actual achievement. Only 28.6 per cent of the total group of men had at any time been engaged in an occupation designated by the name of the correspondence course of their choice. The greatest success is attained in

the wide variety of courses falling under the head of mechanics. Half of this group had worked at some time in the mechanical trades. Less lenient but more significant standards of comparison are these: What proportion of men have had as their chief occupation the one indicated by the course title? What proportion of men were recommended by the clinic to seek employment in the field named by the course title? The respective proportions are 18 per cent and 22 per cent of the total group. How can anyone justify the practice of making strong claims regarding occupational advancement to be achieved through correspondence courses?

4. Tests of academic ability and of occupational skill, considered together with the individual's occupational history, leave no doubt that a considerable proportion of men registering in correspondence courses are attempting forms of training far beyond their capacities of assimilation. A very large number of men employed in semiskilled and unskilled occupations pay fees for courses in accounting, business management, and engineering. Many of them could profit far more from specific training on the job, or from specific training related to the job. Only a small minority in the lowest economic levels are justified in seeking the higher occupational levels.

5. In comparison with the standard sample of unemployed men, the group considered in this inquiry are more highly selected when the bases for making this judgment are years of formal education and scores in educational-achievement tests. If correspondence schools would set up personnel bureaus and avail themselves of measuring instruments whereby adult students could be guided to suitable courses, their courses of training would meet a sorely felt need in the field of adult education. Until they undertake this service, efforts of the hit-or-miss variety coupled with intensive advertising and sales campaigns must continue to brand most of these schools as merely profit-making institutions. And of more serious import, they are contributing to the formation of an unhappy and maladjusted citizenry.

The Minnesota study directs attention to an important educational and social problem. It does not, of course, afford conclusive evidence of the inefficiency of commercial correspondence schools, but it does constitute a challenge to such schools and to our present social policy with respect to adult education. Private correspondence schools cannot for long ignore or escape their social responsibility. They will have to demonstrate their effectiveness, or their work will be taken over by public educational agencies. In fact, one cannot read the Minnesota report without seriously questioning the social policy which makes it necessary for so many persons to seek vocational adjustment through private correspondence study.

NON-PROMOTION IN THE FIRST GRADE AND FUTURE PROGRESS OF PUPILS

The following paragraphs are quoted from a recent report of the Division of Educational Research and Results of the school district of Philadelphia.

One reason frequently given in explanation of low promotion rates in Grade I is that the teachers and schools with relatively low first-grade promotion rates are laying a better foundation for future progress than are teachers and schools with higher rates. The assumption is that a term repeated in Grade I will be more than counterbalanced by more satisfactory progress in later grade sections. The first data that cast doubt upon the validity of this reasoning were several cases of failures in Grades IV A, V A, and VII A in which teachers reported that the chief trouble lay in the fact that the pupils did not have sufficient foundation in reading. Investigation showed that most of these pupils had repeated one or more terms in Grade I or II. Some of them had repeated several terms in these early, pre-eminent "reading" grades. Apparently, repeating one or more terms in the first grade had not insured sound reading techniques for these pupils.

The question as to whether repetition of a term or more in first grade is more or less efficient than regular promotion in this grade cannot be answered conclusively. Suggestive evidence may be gathered, however, by using two groups of pupils as nearly alike as possible. To this end two groups were studied. There were 330 cases of pupils who had repeated one or more terms in first grade. These cases were separated by sexes, ages at entrance, and IQ's. They were matched, group for group, with 505 cases taken at random from among those pupils who had not repeated in Grade I.

These two groups of pupils were matched exactly on the basis of age of entrance to Grade I A. They were matched exactly on the basis of learning rates (IQ's) as measured in Grade VI B. Due to the relative constancy of the IQ it is likely that the average learning rates of the two groups had been approximately equal in the first grade. Furthermore, because of the known wide variation in promotion practices among teachers and schools, it is evident that to some unmeasurable but important extent the reason for their placement in the promoted group or the non-promoted group lay in this difference in promotion practice. To the extent that the first-grade promotion or non-promotion of these pupils depended upon differences in teachers' judgment, a comparison of these two groups should throw light upon the effectiveness of repetition in Grade I as a means of securing better progress in later grades.

It was found that the first group repeated in Grade I for an average of 1.4 terms. Subsequent repetitions averaged 1.8 terms or a total of 3.2 terms. The group which was promoted in both Grades I A and I B showed an average subsequent (and also total) repetition of only 1.7 terms. Not only was the total

progress of the group which repeated considerably slower, but it was slightly slower even without counting the time used for repeating in first grade.

A similar study involving a greater number of pupils was made by a committee of principals in District 4. The records of 3,221 fifth- and sixth-grade pupils were studied. Eight hundred sixty-two failed in Grade I A, 2,359 did not. When these pupils were divided into IQ groups, it was found that the percentage of failure per grade subsequent to Grade I A was greater in every IQ group for those pupils who had repeated I A than for those who had not repeated.

While these two studies cannot be conclusive, their findings cast doubt upon the effectiveness of repeating in Grade I for the purpose of securing better progress in later grades.

A PROCEDURE FOR THE RATING OF PRINCIPALS

The Board of Education of the City of New York has adopted a new procedure for the rating of principals by district superintendents. The district superintendents are to give ratings of "satisfactory" or "unsatisfactory" and, in cases in which they think it desirable, further citations for special excellence or special weakness in attributes in four categories: leadership, administration, supervision, and achievement of results. Since this procedure will be of interest to superintendents and principals throughout the country, we quote the outline of attributes in the four categories as given in the bulletin issued to the district superintendents by the superintendent of schools, Harold G. Campbell.

I. Leadership

1. Personal characteristics

- a) Personality—sympathy, initiative, enthusiasm, individuality, resourcefulness, inspirational qualities
- b) Breadth of view
- c) Progressiveness—professional spirit, attitude toward and application of new ideas, etc.

2. Personal abilities

- a) Scholastic attainments
- b) Public speaking
- c) Meeting situations
- d) Inspiring others

3. Relationship to pupils

- a) Conduct of assemblies
- b) Moral leadership
- c) Development of school spirit
- d) Interest in extra-curriculum activities

4. Relationship to teachers
 - a) Fair and impersonal attitude, assignments, ratings, etc.
 - b) Teachers' conferences—quality, variety, frequency, effectiveness
 - c) Professional improvement of teachers
 - d) Recognition and encouragement of teacher initiative
5. Relationship to others
 - a) Co-operation—with officials, with neighboring schools, with parents' associations, with parents individually, with the public, etc.
 - b) Civic activity—community leadership, public exercises, etc.
 - c) Contacts with professional associations
 - d) Relations with colleagues
6. Contributions to educational progress
 - a) Authorship
 - b) Addresses
 - c) Courses given

II. Administration

1. As to the building
 - a) Building and equipment—repairs, cleanliness, economy, decorations, heating, lighting, ventilating
2. As to the pupils
 - a) Health and safety—medical inspection, fire drills, street patrol
 - b) Attendance and punctuality
 - c) Grading and promotion
 - d) Adjustment of course of study
 - e) Discipline
 - f) Extra activities—use of libraries, clubs, athletics, etc.
3. As to the teachers
 - a) Assignment of staff
 - b) Recognition of special ability and outstanding personality
4. As to school management
 - a) Routine—office procedure, records, reports, etc.
 - b) School and class programming
 - c) Congestion problems—special types of organization
 - d) Organization of assemblies
 - e) Textbooks and supplies
 - f) Graphic presentation of various phases of school activities—attendance, health records, retardation, scholastic achievements, etc.
 - g) Effective functioning of school in principal's absence

III. Supervision

1. Of teachers
 - a) Constructive teacher-training program—opportunity afforded for initiative, development of leadership in teachers, etc.

- b) *Pedagogic guidance of teachers*
 - (1) Recommending books, courses, lectures, etc.
 - (2) Inspections
 - (3) Demonstrative lessons
 - (4) Classroom visits to observe teaching
 - (5) Aid given to weak and inefficient teachers
 - (6) Technique of supervision made clear to teachers
 - 2. Of clerks
 - 3. Of custodians
 - a) Building and equipment
 - b) Cleanliness of plant
 - c) Custodian's supervision of staff
 - 4. Of pupils
 - a) Classification—articulation from grade to grade, interpretation and modification of course of study
 - b) Tests—diagnostic and achievement
 - c) Discipline—program for development of personality, character-training, citizenship, etc.
 - d) Extra-curriculum activities—use of libraries, clubs, athletics, etc.
 - e) Visiting teacher
- IV. Achievement of results
- 1. As to pupils
 - a) Attendance and punctuality
 - b) Discipline and character-building
 - c) Civic responsibility
 - d) Extra-curriculum activities
 - e) Results of instruction disclosed through intelligent use of modern tests
 - f) Use of co-operative agencies, libraries, museums, etc.
 - 2. As to teachers
 - a) *Esprit de corps*
 - 3. In general
 - a) Appearance and care of building
 - b) Progress of school evaluated in terms of type of population and special problems
 - c) Solution of valid problems, outcome of experiments (approved by district superintendent)
 - d) Standing of school in the community

CONFERENCE OF ADMINISTRATIVE OFFICERS OF PUBLIC AND PRIVATE SCHOOLS

During the week of July 16-20 a conference of administrative officers of public and private schools will be held by the Department of Education of the University of Chicago. The conference will have

as instructors Leslie A. Butler, superintendent of schools, Grand Rapids, Michigan; Charles E. Lex, city purchasing agent, Cincinnati, Ohio; Claude V. Courter, superintendent of schools, Dayton, Ohio; James B. Edmonson, dean of the School of Education, University of Michigan; Emmett A. Betts, director of educational research, Shaker Heights, Ohio; Paul M. Cook, executive secretary, Phi Delta Kappa; William F. Ogburn, professor of sociology, University of Chicago; and members of the Department of Education of the University of Chicago.

The University extends a most cordial invitation to superintendents, principals, and business managers of public and private schools to attend the conference. Arrangements have been made for those who attend the conference to visit classes and to enjoy other University privileges without the payment of fees. The sessions of the conference will be held in the Club Room of Judson Court, College Residence Halls for Men. Room and board will be provided in Judson Court from Monday morning, July 16, to Friday noon, July 20, for \$17. Reservations may be made through William J. Mather, Bursar of the University of Chicago. Persons with reservations may occupy rooms Sunday evening without extra charge if they desire. Admission to the conference will be without fee. The complete program follows.

Monday, July 16

PROBLEMS IN THE PERSONNEL ADMINISTRATION OF TEACHERS

"Improvement of Personnel through Efficient Recruitment," Robert C. Woellner, Assistant Professor of Education; Executive Secretary, Board of Vocational Guidance and Placement; Adviser in the College, University of Chicago

"Improvement of Professional Morale under Conditions of Decreasing Salary Schedules," Leslie A. Butler, Superintendent of Schools, Grand Rapids, Michigan

"Improvement of Professional Service through Scientific Supervision," William C. Reavis, Professor of Education, University of Chicago

Organization of round-table conferences for the afternoon sessions. Separate conferences will be conducted for superintendents and principals.

Tuesday, July 17

RELATION OF SCHOOLS TO CITY GOVERNMENT

"Co-operative Purchasing," Charles E. Lex, City Purchasing Agent, Cincinnati, Ohio

"Co-operative Relations between Schools and City Governments," Nelson B. Henry, Associate Professor of Education, University of Chicago

"Maintaining Professional Control of Schools in Opposition to Dominant Political Interests," Claude V. Courter, Superintendent of Schools, Dayton, Ohio

Wednesday, July 18

EDUCATION OF CHILDREN AND ADULTS IN THE WORTHY
USE OF LEISURE TIME

"An Evaluation of Activity Curriculums," Franklin Bobbitt, Professor of Educational Administration, University of Chicago

"Trends in Extra-Curriculum Programs," Leonard V. Koos, Professor of Secondary Education, University of Chicago

"Impending Developments in Adult Education," William S. Gray, Professor of Education; Executive Secretary, Committee on the Preparation of Teachers, University of Chicago

Wednesday Evening Conference

EDUCATION AND THE NEW DEAL

Chairman—William J. Bogan, Superintendent of Schools, Chicago

Thursday, July 19

LEADERSHIP IN PUBLIC-SCHOOL ADMINISTRATION

"The Leadership Function of the City Superintendent," James B. Edmonson, Dean of the School of Education, University of Michigan

"The Instructional Leadership of the School Principal," Emmett A. Betts, Director of Educational Research, Shaker Heights, Ohio

"Organization of Educational Forces for More Effective Professional Leadership," Paul M. Cook, Executive Secretary, Phi Delta Kappa

Friday, July 20

THE SCHOOL AND SOCIAL CHANGE

"The Function of the School in Organized Society," Charles H. Judd, Professor of Education; Head of the Department of Education, University of Chicago

"The School and Future Social Trends," William F. Ogburn, Professor of Sociology, University of Chicago

"Educational Implications of Recent Social and Economic Change in American Life," Newton Edwards, Professor of Education, University of Chicago

PROMOTING ABILITIES AND INTERESTS THROUGH THE SCHOOL LIBRARY¹

LOUIS R. WILSON

Graduate Library School, University of Chicago

The general theme of this conference is the contribution which the elementary school may make to abiding life-interests. The part I have been asked to take in this program is to indicate what abilities and interests the changing social order demands of the future citizen and to show how these can be promoted through the school library.

In the development of this subject it will be necessary to proceed on the basis of five assumptions, namely: (1) There is a changing or new social order. (2) Trends in this social order make necessary a rapidly increasing knowledge of both general and special information. (3) The present school program is not so effective as it should be in acquainting the future citizen with the subjects of greatest importance in his social and economic life. (4) The present school program is less successful than it should be in giving the future citizen adequate standards of conduct and social ideals. (5) The school child of today must be trained in such a way that education will be a continuing process after formal school days are over.

The interests and the abilities which I think it is important for the school to promote through the library are seven: (1) the ability to read; (2) the ability to use books as tools and aids in vocational adjustment; (3) an understanding of, and an interest in, the problems which confront the citizen as a member of society; (4) an understanding of, and an interest in, appropriate conduct on the part of a good citizen; (5) an extension of the range of individual interests, particularly in reading as an adult pursuit; (6) an increased appreciation of beauty in music, art, and nature; and (7) the ability and interest to maintain the educational process throughout adult life.

¹ A paper read before the Annual Schoolmen's Week, University of Pennsylvania, March 15, 1934.

UNDERLYING ASSUMPTIONS

The five assumptions mentioned require brief elaboration. I shall discuss them seriatim.

Whether or not there is a new social order I leave to you. At the meetings of the National Education Association and the Progressive Education Association in Cleveland, February 24 to March 3, 1934, the new social order was the burden of the theme of almost every speaker. The term appeared in the title of many of the addresses scheduled in the programs of the former and was frequently repeated in the programs of the latter. Shorter working hours, new leisure, and adult education were stressed on every hand. On March 4 the *New York Times*, in an article by Charles Merz, featured each of the twelve months of the New Deal with a picture ranging from the inauguration in March, 1933, through the signing of the farm bill in May, the beginning of the NRA in August, to the return of four million of the unemployed to work under the CWA in December. The series could well have been concluded with a representation of the thousands of adults gathered under CWA and CWES in classes in schoolhouses throughout the nation to engage in the study of some subject which appealed to their adult interests.

William F. Ogburn, principal investigator for former President Hoover's Research Committee on Social Trends, is offered as an authority concerning the second assumption that general knowledge and specialization have been enormously increased at the same time and that in the future the period of education, both formal and informal, will have to be extended to enable the individual to keep abreast of the times. In a recent address before the Chicago Library Club,¹ Professor Ogburn elaborated the idea and furnished a number of striking illustrations. Among those bearing on the point may be mentioned: (1) the new knowledge to which new inventions have given rise, such as the automobile, the radio, the speaking film, and television, and (2) the new specialization incidental to a complete understanding of the scientific principles and applications which have made these inventions possible. The contrast between the two-wheeled sulky on exhibition at Monticello, in which Thomas Jefferson made the trip from his Virginia home to Philadelphia when he

¹ To be published soon in the *Library Journal*.

drafted the Declaration of Independence, and the infinite variety of modes and instruments of transportation exhibited in the Transportation Building of the Century of Progress at Chicago in 1933 is sufficient to establish this tendency, and Professor Ogburn sees no reason why the tempo in invention, with its attendant extension of general and specific knowledge, should be decreased in the future. On the contrary, he is convinced that the tempo, both in invention and social change, will be steadily, possibly even sharply, increased and that rapid change in the social order will become the rule rather than the exception.

The third assumption, that the present school program is not so effective as it should be in preparing the future citizens for successful participation in the social order, requires further elaboration. In one of the most stimulating addresses heard at Cleveland before the Department of Adult Education of the National Education Association, Professor John J. Mahoney, of Boston University, dealt specifically with this subject. He frankly questioned the ability of the present-day teacher to present the questions which constitute the current problems of the new order in such a way as to give the pupil the proper understanding and attitudes to enable him to adjust himself to effective democratic, social living. He asked—and with slight hope of having his question answered in the affirmative—whether we as teachers can define accurately socialism, communism, Fascism, or dictatorship and can convey to our pupils an exact understanding of these terms. He doubted whether the school could give correct interpretations of the New Deal, of the status of the farmer and of the unemployed, of the relative merits of the gold standard and a devalued currency. He has tried these questions out annually on his classes of three hundred teachers in Boston, and he has found no reason to believe that they or the general adult public have a clear conception of these and other major social questions. Edward A. Filene, also of Boston, one of the nation's greatest merchants and financial leaders and a liberal in his relations with his employees, declared, in one of the most important addresses before the National Education Association at Cleveland, that those whom the schools had trained had been so poorly trained on social issues that they would not permit the schools today to change the nature of their

teaching. Studies of the reading abilities of adults now being carried on by W. S. Gray, under the sponsorship of the American Association for Adult Education, and the experience of Lyman Bryson, director of the forums being conducted in connection with the Des Moines Public Schools, indicate conclusively that a large percentage of the present adult population do not and cannot read intelligently materials concerning the issues of the day and that, if these voting members of society are brought to any understanding of those issues, the task will be effected through the spoken rather than the written word.

The fourth assumption is that it is the function of the modern school not only to provide adequate training in the field of the social studies but to give the future citizen standards and ideals of conduct by which he may properly direct his relations to society. This idea is finding expression on every hand. The programs of this convention are replete with it, and the main theme of this particular section implies it. A recent bulletin for teachers, issued by Teachers College of Columbia University, containing suggestions for the study of modern problems and the accompanying pamphlets in the *National Crisis Series*¹ present the same point of view. Unquestionably, the schools of the country will attempt to increase and improve the instruction which they offer in the field of social studies. They will make this instruction more inclusive than it now is and will strive in every way short of indoctrination to enable the citizen of tomorrow not only to understand the issues of the day but to order his conduct in relation to society befittingly. The non-social or the antisocial conduct of thousands of Americans during the period of prosperity should not be repeated in the days ahead.

The fifth assumption is that it is demanded of the school that it shall concern itself not only with the immediate tasks at hand which constitute its daily and yearly routine but that it shall impress upon its pupils the idea that the learning process is a continuing one. Education is no longer to be a thing to be completed in the teens; it is a process through which men and women are to expand and enrich

¹ Herbert D. Bruner, *Some Suggestions for the Study of Modern Problems*. The National Crisis Series. New York: Teachers College, Columbia University, 1934.

their experiences throughout their entire lives. It must become a creative process through which leisure can be made to enrich rather than to menace life. Participation in adult or continuing education, formally or informally and in an infinite variety of ways, will be required in the changed social order.

INTERESTS AND ABILITIES TO BE PROMOTED

So much for assumptions. Now for a consideration of the interests and abilities which are to be promoted.

1. First of all, the changing social order demands of the school that the future citizen shall know how to read and that he shall have acquired the skill which will enable him to continue to use print as a source of ideas through his entire life. This task is what all schools are attempting. How the school library contributes to this end you know better than I because you are daily engaged in teaching pupils how to read; I know only from the testimony of others and from observations which I have made of the result of the use of reading materials. You know from daily experience that the child progresses more rapidly than he otherwise would in the mastery of reading if supplementary books are at hand for rapid silent reading and that the range of vocabulary and the power of comprehension are increased correspondingly. A report which appeared in one of the publications of the United States Office of Education several years ago bears interesting evidence on this point.¹ In two schools, one with and the other without adequate library service, children of the seventh and the eighth grades were given oral and written tests on selections from books for their grades. The responses of the former were standard, whereas no satisfactory responses were secured from the latter until books suitable for fifth and sixth grades were substituted, and then the responses were given in the vocabularies expected of fifth- and sixth-grade children. In my native state, North Carolina, in which the development of public and school libraries has been comparatively backward, only 48 per cent of the Seniors in the high schools in 1926 equaled the ability of Freshmen in the high

¹ Sarah B. Askew, "The Parent-Teacher Associations and the County Library in New Jersey," *Cooperation in Adult Education*, pp. 25-26. United States Office of Education Home Education Circular No. 6, 1925.

duced into the elementary schools with difficulty on account of this and other obstacles. Nevertheless, the day is not far distant, in my opinion, when librarian and teacher and student of educational psychology will unite in indicating to authors and publishers the characteristics which publications in the social sciences must embrace if they are to be successfully used by children and adults of seventh- and eighth-grade reading attainment. Visual aids, charts, maps, pamphlets, booklets, and other materials not now generally in use in the school and written so that they can be understood must and will be written, published, and made available. Publications such as the pamphlets of the National Crisis Series issued by Teachers College of Columbia University and the reprints of the broadcasts of the Committee on Civic Education by Radio¹ on social and economic problems, if simplified, can be utilized, as well as radio programs, moving pictures, panel discussions, and forums.

4. The development of appropriate attitudes and conduct does not necessarily involve the question of indoctrination. It does involve, however, the necessity of providing materials in the library—economic, social, biographical, and fictional—which furnish illustrative examples of high ideals and exemplary conduct, and the necessity of maintaining standards of courtesy and regard for others in the conduct of library routine. Man's dependence on other men and his regard for their rights must be taught. Florence Eva Schars² has indicated that the library can assist the school in promoting such ideals and attitudes. She finds that courtesy can be taught in the borrowing of books. A pupil whose immediate need for a given book is less urgent than that of another child may be induced to yield the right. Co-operation can be cultivated through the development of a given project by a group. Respect for property can be taught in the care of library materials, and responsibility and fidelity to trust may be emphasized through membership in library committees or library pageship designed to assist the teacher and the librarian. The results

¹ *You and Your Government*. Broadcasts by the Committee on Civic Education by Radio of the National Advisory Council on Radio in Education and the American Political Science Association. Reprints may be secured from the National Municipal League, 309 East 34th Street, New York City.

² Florence Eva Schars, "The Intermediate School Library and Character Education." Unpublished Master's thesis, College of the City of Detroit, 1932.

of her investigation are supported by Charters in his book *The Teaching of Ideals*,¹ in which he stresses the fact that biography and other forms of literature available to children profoundly shape ideals and standards of conduct. It is the responsibility of the teacher, the librarian, and the children's librarian in the public library to know what books serve these purposes best and to see that they are available. America has been too profoundly shocked by the non-social or antisocial attitudes of many of its citizens in recent years not to attempt to correct the situation in some way.

5. Once the difficulties of learning to read are definitely overcome, interest in reading should become a normal interest. The literature on children's interest in reading is sufficiently extensive to require no comment on my part other than to say that it is taken for granted that the teacher and the librarian know not only the standard works on children's interests, such as Terman and Lima² and Jordan,³ but have an intimate knowledge of the books and magazines themselves which appeal to children. Rasche⁴ has listed in a master list 110 devices which teachers, school librarians, and children's librarians use to stimulate reading activities in books, magazines, and newspapers, to elevate tastes, and to cultivate permanent interests in reading. He found that only four of the 110 methods were employed universally in elementary schools, junior high schools, senior high schools, and public libraries for these purposes. These were: providing browsing rooms or corners of library rooms for browsing purposes, encouraging the organization and activities of reading clubs, giving credit for reading, and using pictures. All persons who are charged with the direction of children's reading should keep constantly in mind the following important considerations: (a) that the materials which children are to read should be well selected, (b) that the peak in the reading interest of children comes somewhere during the twelfth and

¹ W. W. Charters, *The Teaching of Ideals*. New York: Macmillan Co., 1927.

² Lewis M. Terman and Margaret Lima, *Children's Reading*. New York: D. Appleton & Co., 1931.

³ Arthur Melville Jordan, *Children's Interests in Reading*. Chapel Hill, North Carolina: University of North Carolina Press, 1926.

⁴ William Frank Rasche, "Methods Employed by Teachers and Librarians To Stimulate Interests in Reading" Unpublished Master's thesis, Department of Education, University of Chicago, 1927.

the thirteenth years, and (c) that the basis for future reading tastes and habits should be most carefully nurtured at this time. In view of the facts that, when many of us were boys and girls, not more than 10 or 15 per cent of us went into high school, that only 55 per cent of the present population of high-school age is enrolled in high schools, and that millions of our present adult population have a reading ability of only sixth- or seventh-grade level, an ability in many instances grown rusty through disuse—I say that, in view of these facts, it is clearly evident that the burden of training a literate citizenry rests largely on the shoulders of the teachers and the librarians who work with children in the elementary schools. High schools and colleges take it for granted that the mechanics of reading have been achieved in the lower school. They frequently are mistaken in this assumption, as reading studies at the college level show.

6. In *Publishers' Weekly* for December 16, 1933, is an article entitled "A Model Library for Boys and Girls,"¹ compiled by Quail Hawkins of the Sather Gate Book Shop of Berkeley, California. Immediately under the caption is a further statement that "a complete child's library may be built up over a period of sixteen years at a total cost of only \$300," or a yearly expenditure of \$18.75 or \$1.56 a month. In common with a great many school men who visited the third floor of the Cleveland Public Library, in February, 1934, where one of these model libraries was on display, I came away thoroughly convinced that the child who was so fortunate as to have owned and read that collection of books not only would be well read but would possess a mind furnished with images and concepts which would be as a spring of refreshing water for him throughout his entire life. Picture books, Mother Goose jingles, fairy tales, legends, stories of adventure, fiction, biography, science, invention, poetry, plays, literature—all are there in good print, and in many instances with the best of illustrations. The child who comes to the age of seventeen via a successful reading experience such as this library provides not only will have mastered the mechanics of reading but will possess a vocabulary that should enable him to deal effectively with ideas and understand much of the world around him. He should also

¹ Quail Hawkins (compiler), "A Model Library for Boys and Girls," *Publishers' Weekly*, CXIV (December 16, 1933), 2069-73.

be acquainted with high ideals of conduct. His interests in reading as a permanent resource should be largely established, and his sensitiveness to beauty in nature and picture and book should at all events be heightened, if not permanently fixed.

7. At the risk of repeating myself, I want to say two other things about preparing the citizen-to-be through the school library for participating in some form of education throughout adult life. A few years ago Thorndike comforted all of us who had reached the age of forty or more by telling us that we had not necessarily reached the limit of our ability to acquire new information. That assurance was consoling, particularly in view of the fact that the authors of *Recent Social Trends in the United States*,¹ notably W. F. Ogburn, tell us that general information is going to increase at an accelerating rate and that specialization is going to be even more complex and detailed than at present. I am of the opinion that adult education, about which many of us have been more or less vaguely concerned, is here and that the schools and the libraries are going to be charged with carrying on a great many of those aspects of it, both formal and informal, with which we are rapidly becoming familiar. If this supposition is correct, both institutions will have to introduce a greater degree of flexibility into their thinking about the organization and administration of their programs and effect a greater measure of co-operation between themselves and many educational and cultural agencies in the community. Both will have to see life in its total range. They will have to recognize that more and more we are becoming an adult population, since the ratio of adults to children of school age is steadily gaining. We shall also have to concern ourselves with the methods of dealing with adult minds and with materials which will be of greatest service to them. We shall probably come to realize that both the school and the library have concerned themselves too specifically with their special clientèles. Through closer co-operation and a broader conception of their functions, it will become incumbent on the school and the library to work out, with other vocational, cultural, and recreational agencies, an educa-

¹ *Recent Social Trends in the United States: Report of the President's Research Committee on Social Trends*. New York: McGraw-Hill Book Co., Inc., 1933.

tional process that will involve the individual from the beginning to the end of his career.

The final thing I wish to say is that, if this program of utilizing the school library is to be developed and carried to a high degree of effectiveness, the significance of the use of library materials must be realized more fully by school men generally than it has been in the past. Knowledge of the ways in which the school library can aid the school in promoting life-interests and abilities must be greatly increased. Support for its administration, whether through the school, the public library, or both, must be adequately provided for. Enriched programs of study can become a reality only when library materials essential for such enrichment are at hand and when teachers and librarians employ them skilfully in laying an educational foundation upon which a resourceful and satisfying future can be built.

A NEW PLAN FOR FORMING CLASS GROUPS

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The belief that a class group, when once formed, must operate as a unit within the school prevents adequate adjustment of pupils to the difficulties of their learning tasks. Such would not be the case if the class groups were adjusted to the scholastic abilities of the pupils. The traditional practice of grouping children for instructional purposes is based on the false assumption of the existence of abilities, attainments, and capacities which are common to all individuals within the group. The use of the grade as a basis for grouping, which is by far the plan most prevalently used, is supported by the assumption that all pupils within the same grade have similar capacities for learning and equally developed abilities and skills for performing the learning tasks of each and every subject within the grade curriculum. Life relates many variable factors within and about the growing and learning child. These variables reduce the common elements in the outcomes of learning.

Much evidence is on hand to show that, in reality, a pupil usually achieves at two or three different grade levels whenever an achievement battery test is given to him. Scores in various subjects, when interpolated into grades, show such typical variability as 6.0 in reading; 5.5 in spelling; 5.0 in geography; 3.7 in language; 4.6 in arithmetic; and equal variability in civics, history, literature, and other subjects. Such scores indicate that the pupil is not only at the fifth-grade level but that he is also at the third-, the fourth-, and the sixth-grade levels. In this case it is obvious that the pupil should not be given the fifth-grade course of study in all subjects but should encounter the course of study in each subject at a point where his capacities and previous scholastic achievement promise optimum development—especially in the case of the “sequential,” or vertical, skills subjects.

While the practice of grouping children on the basis of a single grade fails to secure an optimum learning situation for the average or typical pupil, the weaknesses of such a system are multiplied for the large number of above-average and below-average pupils. For the below-average pupil, who inevitably becomes retarded, grade grouping presents the alternatives of a too-advanced scholastic classification or a social atmosphere too immature for his happiness. At periods in his school career when he should be going forward, he faces retardation and tiresome repetition of learning materials. The above-average child, on the other hand, surely faces restriction. He may lead his class apace but never beyond the lines which definitely delimit that part of the curriculum taught in his grade.

It is apparent that to abandon the practice of grouping would eliminate all the objectionable features of the system. Grouping has, however, proved to be indispensable, and its use will continue indefinitely. Aside from its effectiveness as an expedient of mass education, grouping has enhanced the very quality of education itself by clothing it with the vestments of a real social world. Education for a child removed from a group can never be so rich as when it is received within a group. As an alternative, it seems advisable that the present system of grouping on a basis of a single grade be modified.

It is the purpose of this article to explain the procedure followed in setting up a modified form of grouping in an elementary platoon school in Tulsa, Oklahoma, and to evaluate some of the results of the regrouping.

Four hundred children in Grades III-VI, inclusive, were given intelligence tests. Their intelligence quotients were tabulated in a frequency distribution. The group above the 75 percentile was assigned to Platoon I, and the group below the 25 percentile was placed in Platoon II. The pupils between the twenty-fifth and the seventy-fifth percentiles were ultimately placed in Platoon I or II on the basis of achievement scores in reading. The pupils in each platoon (two hundred) were given a standardized reading test. When all the papers had been scored, five classes of forty pupils were made on the basis of the reading scores. The forty pupils making the highest scores were grouped together in a reading class. No consideration was given previous grade membership or age when either of

these factors did not support the reading score. The pupils making the group of forty next highest scores were placed in another class. The remaining children were grouped in classes of forty in a like manner. Ultimately there were ten class groups in reading, five in each platoon. From 10:55 to 11:30 A.M. every home-room teacher in Platoon I taught reading. From 12:55 to 1:30 P.M. every home-room teacher in Platoon II taught reading. A pupil, regardless of his grade classification, when time came for reading, went to the room nearest his level in reading. The same procedure was followed in the grouping and the teaching of arithmetic and spelling.

The test used in arithmetic was based directly on the local course of study. Each pupil's score on the arithmetic test indicated the point to which he had progressed in the course of study for the elementary grades. Spelling achievement was determined by the Buckingham Extension of Ayres Spelling Scale.

As in the case of reading, all home-room teachers taught arithmetic at the same time. At the end of the reading period each pupil passed to the room nearest his level in arithmetic. At the end of the arithmetic period, all arithmetic classes disintegrated and formed again as spelling classes. In the change of classes from reading to arithmetic and from arithmetic to spelling, the personnel of the groups changed greatly. Less than one-sixth of the pupils showed achievement in each of the three subjects that permitted them to take these subjects on the basis of a single grade classification.

In this school one-fourth of the school day is given to the study of reading, arithmetic, and spelling. One-fourth is given to the study of the social studies, language, and writing; and one-half of the day is given to the special subjects—physical education, science, auditorium, library, art, and music. For the study of the social studies, language, and writing and for the study of the special subjects, the chronological ages of the children were the basis for forming class groups. Forty of the oldest pupils in Platoon I were placed in a class. The forty next oldest pupils were put into another. Each successive forty was placed in another. In all, five groups of forty children were made of the two hundred children in each of the platoons. Thus, a group of children near the same chronological age entered into the sports and games of the physical-education program.

Children of the same age carried out the varied activities of the auditorium together. Together in the music-room they sang songs and listened to music selected to appeal to the age of the group. In social studies each child with about the same "slice of life" engaged in the activities of a course of study designed to give the individual the skills, the ideals, and the attitudes needed for living within the social group.

In these subjects chronological-age grouping was apparently superior to the former grouping by grades. In art and library, where accomplishment of the individual pupil is largely apart from the performance of the group, a systematic basis for grouping is less imperative. In these subjects life-age grouping apparently was as effective as grouping by grades. In science, where the ability to read functions daily in the performance of learning tasks, grouping by chronological age appears to be less advantageous than grouping on the basis of reading ability. However, grouping on the basis of grades has little or no advantage over chronological-age grouping.

A comparison of ranges of achievement, as shown by tests, was made in reading, arithmetic, and spelling of pupils within the various class groups before and after regrouping. Before regrouping, there were twelve classes grouped on the basis of grades. After regrouping, there were ten classes which in sequential-skills subjects were grouped according to achievement and in other subjects according to chronological age. The average range in reading achievement within a group was 5.6 semesters for the twelve classes before regrouping; the average for eight classes after regrouping was 1.3 semesters. (The highest and the lowest classes after regrouping spread beyond the range of the test, and the spread of these two classes could not be measured.) In arithmetic before regrouping, the average range was 2.6 semesters; after regrouping the range was 1.0 semesters. In spelling regrouping reduced the average range from 3.1 semesters to 2.6 semesters.

A comparison was made of the chronological-age ranges within the groups before and after regrouping. In the twelve classes before regrouping, the average age range was four years and eleven months. In the ten classes after regrouping, the range in the reading classes was four years and ten months; in arithmetic classes, five years and

two months; and in spelling, four years and eleven months. The average range in social studies and special subjects for the ten groups was one year and three months.

The final result is a school grouped on a combination of the three great recognized bases for classification, namely, achievement, chronological age, and intelligence. In a sequential-skills subject the pupil works on a plane of difficulty which approximately equals his achievement. In all content subjects he works with others of his own life-age. Since platoons are formed on the basis of "native brightness," or intelligence, it always follows that in the groups the bright pupils work only with bright or average pupils and dull pupils work with dull or average pupils. Though there are average pupils in each group, extremes are eliminated.

Weekly tests are given in arithmetic and spelling. When a pupil's test record and the teacher's estimate of his ability fall outside the limits of the predetermined standards, the pupil is moved forward or backward into an adjacent group. Thus, promotions or accelerations are made at any time without skipping a pupil over extensive stretches of work or waiting until the end of the semester. Likewise, a retarded pupil can be immediately adjusted instead of being compelled to repeat work after months of fruitless effort. If delayed for any reason, a pupil begins the next school term at the point where he left off.

Apparently, the plan is sufficiently flexible to permit the slow pupil to finish the ordinary elementary-school curriculum in a little over six years without repetition due to retention at any time, or he may follow a "core" curriculum and finish in exactly six years. It will permit a normal pupil to finish in a normal length of time. The pupil who evinces special aptitudes in school subjects can finish the ordinary elementary-school curriculum in less than six years or follow an enriched curriculum and finish in the usual time.

The plan thus tends to create for every pupil a social situation which is adequate and pleasant and a learning situation which constantly challenges his abilities and interests and develops his skills in each subject at his optimum rate.

SELECTION AND GRADATION OF WORDS IN SPELLING

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STATEMENT OF THE PROBLEM

The application of scientific methods in determining objectives, curriculum content, methods, and organization in school subjects has proceeded rapidly for two or three decades. While progress may be recorded in most school subjects, the two subjects which have been most assiduously investigated have been arithmetic and spelling, particularly with respect to curriculum content. This emphasis is perhaps due to the fact that, when psychological and social utility displaced mental discipline as the basis for the selection or the exclusion of material for instruction, the most obvious cases for the elimination of the useless were to be found in these two subjects.

The first result in the case of spelling was a large number of concrete investigations of the words which, according to frequency of usage, possess the highest social utility either for children or for adults. A second result was the publication of a large number of textbooks in spelling in which the authors endeavored to incorporate the results of these investigations to meet actual needs in schools. In a subject where the problems are as specific and definite as are those in spelling, one would expect that there would have resulted from the wealth of research a reasonable agreement with regard to (1) the choice of words to be taught; (2) the grade placement of words; and (3) the most effective method of presentation, especially with reference to frequency of occurrence of words in textbooks, to secure permanence of retention.

The problem of this investigation was to determine, by a detailed study of twenty modern spellers, the extent to which agreement has been reached in these respects. All the spellers purport to be based on scientific investigations.

BASES FOR THE SELECTION OF SPELLERS USED
IN THE INVESTIGATION

The following twenty textbooks were selected for study.

1. Sarah Louise Arnold, *The Mastery of Words*. Syracuse, New York: Iroquois Publishing Co., Inc., 1920.
2. Frederick S. Breed and William C. French, *The Breed-French Speller*. Chicago: Lyons & Carnahan, 1927.
3. Catherine T. Bryce, Frank J. Sherman, and Arthur W. Kallom, *The Aldine Speller*. New York: Newson & Co., 1921 (revised).
4. Ernest Horn and Ernest J. Ashbaugh, *Lippincott's New Horn-Ashbaugh Speller*. Philadelphia: J. B. Lippincott Co., 1926.
5. W. Franklin Jones, *The Jones Complete Course in Spelling*. Chicago: Hall & McCreary Co., 1924 and 1925.
6. Arthur W. Kallom and Frederick Eby, *The Star Speller*. New York: Newson & Co., 1927.
7. Sterling Andrus Leonard and Edith A. Winship, *The New Merrill Speller*. New York: Charles E. Merrill Co., 1924 and 1925.
8. Ervin Eugene Lewis, *The Common-Word Spellers*. Boston: Ginn & Co., 1921.
9. William A. McCall and J. David Houser, *The McCall Speller*. Chicago: Laidlaw Bros., 1925.
10. M. V. O'Shea, Florence Holbrook, and William A. Cook, *Every-Day Speller*. Indianapolis: Bobbs-Merrill Co., 1917.
11. M. E. Pearson, *The Kansas Speller*. Topeka, Kansas: State Printer, 1917.
12. Henry Carr Pearson and Henry Suzzallo, *Essentials of Spelling*. Chicago: American Book Co., 1919.
13. Claude Anderson Phillips and Martha Mayfield Powell, *The Universal Speller*. Boston: Houghton Mifflin Co., 1929.
14. E. E. Ramsey and Robert K. Row, *The New National Speller*. Chicago: Row, Peterson & Co., 1926.
15. James H. Smith and William C. Bagley, *Mastery Speller*. Boston: D. C. Heath & Co., 1928.
16. Daniel Starch and George A. Mirick, *The Test and Study Speller*. Newark, New Jersey: Silver, Burdett & Co., 1921.
17. Ambrose L. Suhrie and Robert Philip Koehler, *The Spell-To-Write Spelling Books*. Philadelphia: John C. Winston Co., 1921.
18. Willard F. Tidyman, *Supervised Study Speller*. Yonkers-on-Hudson, New York: World Book Co., 1923.
19. Kate Van Wagenen, *The Modern Speller*. New York: Macmillan Co., 1923 (revised).
20. Julia Helen Wohlfarth and Lillian Emily Rogers, *New-World Speller*. Yonkers-on-Hudson, New York: World Book Co., 1925 (second revision).

The reasons for choosing these books were as follows: (1) The authors state that they have made use of the findings of modern spelling research, especially in selecting the spelling vocabularies. (2) The investigations listed as having been used by the authors represent most of the outstanding research in spelling and various types of vocabulary studies. Several of the authors have made specific research contributions to the spelling problem; in fact, some of the most important of the original investigations were made by them. (3) Rather definite guiding principles seem to have been observed in determining the choice of words. (4) Some of the authors have set up definite criteria for determining the grade placement of words.

Individually, these textbooks represent the use of varying amounts of scientific data and varying degrees of excellency in research. Although considerable vagueness exists concerning the manner in which the data were interpreted and employed, collectively the books probably represent as accurate a cross-section of the best vocabulary research and furnish as reliable data for the problems of this type of investigation as it is possible to obtain. However great the differences in the words ultimately selected for the spelling vocabularies, the intent of the authors is clear. They have definitely attempted to select (1) words which the child uses in his daily written work in school; (2) words that are most commonly used by adults in social, business, and occupational life; and (3) words which have been determined by investigation and research into child and adult vocabularies to be those the best calculated to meet spelling requirements.

FACTORS CONSIDERED IN DETERMINING GRADE PLACEMENT OF WORDS

The spellers were carefully examined to discover the principles which had guided the assignment of words to the various grades. These principles, as accurately as could be determined, are presented in the following outline.

1. Grade of first usage by children in their written compositions
2. Frequency of use in writing
 - a) In compositions written by children in each grade
 - b) In compositions written by children in the several grades

- c) In children's writings outside the school
- d) In adult writing outside the school
- 3. Relative difficulty of spelling the words within a grade
- 4. Occurrence of words in reading and speaking
 - a) In reading done in school
 - b) In reading done outside the school
 - c) In the spoken vocabularies of children
- 5. Order as indicated in spelling scales, etc.
 - a) Iowa Spelling Scales
 - b) Scales by Ayres and Buckingham
 - c) Recommendations of the Committee on *Economy of Time in Education*¹
- 6. Actual tests in schoolroom compared with gradings of other investigators
- 7. Level of maturity when children have greatest need for the word in writing
- 8. Composite judgment of teachers
- 9. Anticipation of children's immediate writing needs
- 10. The situations in which children naturally come to use a word in spontaneous or well-motivated written work

No attempt was made to arrange these principles in the order of their importance. Doubtless, frequency of usage at the different grade levels was the most important single factor in determining grade placement. Many authors made use of the findings in the several spelling scales and Thorndike's list,² but the fact that only a limited number of words are listed in the scales makes it necessary to determine the grade placement of the majority of the words in some other way. The grade assignments for most of the words not placed by the plans listed were generally determined by the results of spelling the words in schools and comparing these results with other investigations.

It is often difficult to determine what words in a textbook in spelling constitute the basic spelling vocabulary. Some authors provide lists of proper nouns selected from geography, history, and literature, and the common surnames of persons. Exercises in word-building and completion of parts of words, sentences, reading and writing exercises, and even spelling games are introduced for the purpose of

¹ Ernest Horn, "Principles of Method in Teaching Spelling as Derived from Scientific Investigation," *Fourth Report of the Committee on Economy of Time in Education*, pp. 52-77. Eighteenth Yearbook of the National Society for the Study of Education, Part II. Bloomington, Illinois: Public School Publishing Co., 1919.

² Edward L. Thorndike, *The Teacher's Word Book*. New York: Teachers College, Columbia University, 1921.

stimulating interest and motivating the work, but no definite directions are supplied teacher or pupil concerning the words in such exercises which should receive specific spelling attention. Confronted with this problem, the investigator issued the following instructions for tabulating the words in order that, so far as possible, all words which the authors intended should be taught and learned would be included in this study. (All clerical and statistical assistants for this entire investigation were teachers, graduate students, and other qualified persons, who worked at regular scheduled hours under the personal supervision of Mrs. Carl T. Wise and the writer.)

INSTRUCTIONS FOR TABULATING WORDS

Write each word on a separate card. Whenever a word is repeated, write it on a separate card each time it appears. Write all the words on one page, then verify before writing the words on the next page.

Write the following:

1. All words appearing in columns and in groups.
2. All words used in sentences and writing exercises which are underlined, italicized, or otherwise marked as indicating they are to be taught.
3. All prefixes and suffixes to words when directed to do so.
4. All plural forms when directed to do so.
5. All different verb forms when directed to do so, such as "jump," "jumped," "jumping."
6. All adverbial forms when directed to do so.
7. All possessive forms as directed.
8. Add *er*, *est*, *ed*, *ing*, and *y* to words as directed, but do not repeat the root word.
9. The following proper nouns: (a) days of the week; (b) months of the year; (c) "God," "Christ," "Jesus," "Bible," "Christian," "Christianity"; (d) "Easter," "Christmas," "Thanksgiving Day," "Catholic," "Baptist," "Indian," "United States," "English"; (e) names of all states of the United States; (f) names of all continents.

Omit the following:

1. All proper nouns except those listed above.
2. All proper adjectives.
3. All words used in sentences, in reading and writing exercises, *except* such words as are marked to indicate they should be taught.
4. All phrases, such as "five o'clock."
5. All exercises, such as *ab*, *ach*, *ish*, etc.
6. All words appearing in exercises on use of the dictionary, how to study, pronunciation and accent, word-building, and games.
7. All abbreviations of phrases, like "C.O.D."

8. All common abbreviations, like "lb." or "Aug.," unless the abbreviation is given in connection with the whole word.
9. All foreign words and phrases.
10. "I," "a," and "O."

THE SPELLING VOCABULARY

A detailed statistical analysis of the vocabularies of the twenty spellers, all supposedly incorporating the findings of scientific research, revealed a total of 208,771 words (including repetitions), of which 13,641 are different words.

Table I shows the extraordinary lack of agreement among authorities concerning the particular words that should form the basic spelling vocabulary for children in the elementary schools. In spite of the much-heralded studies in spelling, these twenty spellers show a total of 13,641 different words. Of these, 4,191 words, or 30.72 per cent, are found in only one speller; 6,860 words, or 50.29 per cent, are common to not more than three spellers; and 10,011 words, or 73.39 per cent, appear in ten or fewer of the spelling books. Only 3,630 different words, or 26.61 per cent of the total, are common to eleven or more spellers, and the surprisingly small number of 884 words, or 6.48 per cent, are common to all twenty books.

The size of the written vocabulary has been fairly well determined through a number of investigations, which show that from 3,500 to 4,000 words of highest frequency, with their repetitions, account for more than 98 per cent of all word occurrences.¹ Authorities generally agree that these words are best calculated to meet spelling needs. In consideration of these facts and the great precaution taken by the writer, when tabulating the words, to retain only the basic vocabulary in each textbook and to exclude all other words, it is difficult to understand why the exceedingly large number of 13,641 different words should be considered of sufficient importance to be presented in the twenty spellers investigated. Obviously, either the principles or the practices in the selection of words need revision.

The 3,630 words common to eleven or more textbooks were com-

¹ Ernest Horn, "The Curriculum for the Gifted: Some Principles and an Illustration," *Report of the Society's Committee on the Education of Gifted Children*, p. 87. Twenty-third Yearbook of the National Society for the Study of Education, Part I Bloomington, Illinois: Public School Publishing Co., 1924.

pared with the Commonwealth List,¹ and 153 words were found which do not appear in that list. Among these are 31 words commonly used by girls of the sixth, seventh, and eighth grades in home economics; 17 words are the names of animals, birds, flowers, and plants known by practically all school children. With very few exceptions, the remaining 105 words would appear to be so thoroughly common

TABLE I
DISTRIBUTION OF 13,641 DIFFERENT WORDS
FOUND IN TWENTY SPELLERS*

Number of Spellers in Which Words Occurred	Number of Different Words	Percentage of Total Number of Words
1.	4,191	30.72
2.	1,684	12.35
3.	985	7.22
4.	716	5.25
5.	607	4.45
6.	465	3.41
7.	407	2.98
8.	334	2.45
9.	309	2.27
10.	313	2.29
11.	308	2.26
12.	246	1.80
13.	240	1.76
14.	243	1.78
15.	221	1.62
16.	248	1.82
17.	283	2.07
18.	388	2.84
19.	569	4.17
20.	884	6.48
Total	13,641	99.99

* This table should be read as follows: 4,191 different words, or 30.72 per cent of the total, occurred in only one of the twenty spellers; 1,684 different words, or 12.35 per cent of the total, were common to two spellers; etc.

that one wonders why they have not appeared in some of the several studies on frequency of usage. One wonders why such words as "blade," "cooky," "chin," "dandelion," "fan," and "ruler" have not appeared. The answer is, of course, that these words have not

¹ Ernest Horn, "The 3009 Commonest Words Used in Adult Writing," *The Nation at Work on the Public School Curriculum*, pp. 146-70. Fourth Yearbook of the Department of Superintendence, Washington: Department of Superintendence of the National Education Association, 1926.

been discovered in the written materials examined. The writer suggests (1) that further extensive investigations of children's writings of all kinds may bring to light many words of common usage among children which have not yet been reported and (2) that childhood writing is the most fertile field for further vocabulary study.

The 153 words not found in the Commonwealth List were checked with Breed's list.¹ Sixty-one words were listed as having been found in three or more of the childhood investigations, and 25 of these appeared in the adult composite list.

One might properly question how far the vocabulary common to eleven or more of the twenty spellers studied was affected by including the following derivatives: (1) past tenses formed by adding *d* or *ed*, (2) plurals formed by adding *s* or *es*, (3) adverbs formed by adding *ly*, (4) past participles formed by adding *ing*, (5) comparative degree of adjectives formed by adding *er*, and (6) superlative degree of adjectives formed by adding *est*. The list derived from this study contains but one-third as many words of past tense, two-thirds as many plural words, and two-fifths as many participles as are found in Breed's study. The numbers of adverbs and words of comparative and superlative degree in the two vocabularies are almost identical.

Lippincott's New Horn-Ashbaugh Speller contains 4.5 times as many words of past tense, 9.5 times as many plurals, 3 times as many participles, 1.5 times as many adverbs, 1.5 times as many words of comparative degree, and 2.5 times as many words of superlative degree as are contained in the list derived from the present study.

In Tidyman's "minimum word list of 1,254 words common to four or more of the six most reliable and extensive, concrete investigations of the words frequently used by children and adults in writing,"² these forms rarely occur. Apparently, the inclusion of these forms in this study has in no degree augmented the number or the percentage of such words compared with the number in other statistical studies.

¹ Frederick S. Breed, *How To Teach Spelling*. Dansville, New York: F. A. Owen Publishing Co., 1930.

² Willard F. Tidyman, *The Teaching of Spelling*, pp. 152-61. Yonkers-on-Hudson, New York: World Book Co., 1919.

GRADE PLACEMENT

Complete analysis was made of the entire list of words found in all twenty spellers to determine the extent of agreement among the authors with reference to the initial grade placement of words. The variability shown by Table II is astounding. Out of 13,641 different words, only 889, or 6.52 per cent, are placed in the same initial grade by all authors in whose spellers they appear. "Algebra," a word common to thirteen books, has the distinction of being the only word above second-grade level that appears in the same initial

TABLE II
EXTENT OF AGREEMENT ON THE INITIAL GRADE PLACEMENT OF
889 OF A TOTAL OF 13,641 WORDS IN TWENTY SPELLERS

Number of Spellers	Number of Words Given Same In- itial Placement	Number of Spellers	Number of Words Given Same In- itial Placement
13.....	1	5...	25
10,.....	1	4.....	52
9.....	1	3.....	147
8.....	6	2.....	636
7.....	8		
6.....	12	Total....	889

grade in more than ten spellers. Then follows "correspondent" in ten and "perpendicular" in nine spellers.

Table III shows the method of determining the grade placement of the 3,630 words common to eleven or more spellers. The arithmetic average was found for the first grade in which the words appear in the various spellers. This method of assigning words to grades resulted in the distribution shown in the table.

The words within each grade were arranged in the order of their spelling difficulty, beginning with the least difficult word. This arrangement was made on the basis of existing determination of word difficulty found in Buckingham's Extension of the Ayres Spelling Scale, the Iowa Spelling Scales, the Sixteen Spelling Scales Standardized in Sentences for Secondary Schools, and the Youngstown Spelling Scale. Eleven hundred and three words not found in any of these scales were spelled by children of the grades in which the

words were placed in the elementary and junior high schools of Duluth, Minnesota, to determine their spelling difficulty.

Study was made to determine how closely the authors of the spellers agree on the location of words within each grade. The disagreement was determined by finding the number of words in each grade having an average deviation of 1.00 or more from the arithmetic average of the grade placement in the twenty spellers and computing the percentage of such words on the basis of the total number

TABLE III
GRADE PLACEMENT OF 3,630 WORDS COMMON TO
ELEVEN OR MORE SPELLERS

Grade	Average Range of Grade Placement	Number of Words
I.	1.00-1.49	32
II.	1.50-2.49	343
III.	2.50-3.49	627
IV.	3.50-4.49	660
V.	4.50-5.49	648
VI.	5.50-6.49	637
VII.	6.50-7.49	586
VIII.	7.50-above	97
Total. . . . .	.....	3,630

of words in each grade. The results are given in Table IV. Exceedingly close agreement in location exists in Grades I, II, VII, and VIII. The almost unanimous agreement in Grades I and II is not surprising because (1) the words largely represent early childhood interests and activities, (2) they are easily spelled, and (3) they have been more extensively investigated than have the words of other grades. The close agreement in Grades VII and VIII may result from (1) the large number of words selected from adult vocabulary lists, (2) the numerous words not commonly used by children below the seventh and eighth grades, and (3) difficulty in spelling.

The deviation in placement of words in Grades IV, V, and VI is very marked, being highest in Grade V. The data indicate that 39 per cent of the words in Grade V might have been distributed between Grades IV and VI. It is evident that there is great lack of

agreement between the theory and the practice of authorities with respect to the grade assignment of words that should form the spelling vocabulary for Grades IV-VI, inclusive.

TABLE IV
WORDS IN EACH GRADE WITH A DEVIATION OF ONE OR
MORE FROM AVERAGE GRADE PLACEMENT
IN TWENTY SPELLERS

Grade	Number of Words	Percentage of Words
I.	0	0.00
II.	10	0.03
III.	99	15.79
IV.	194	29.39
V.	253	39.04
VI.	153	24.01
VII.	47	0.08
VIII.	3	0.03

TABLE V
DATA ON NINE WORDS ILLUSTRATING INCONSISTENCY OF REPETITION

Word	NUMBER OF SPELLERS IN WHICH FOUND	COLUMN IN DICKINSON'S EXTENSION OF AYRES SPELL- ING SCALE	GRADE PLACEMENT	FREQUENCY OF PRESENTATION	
				Range	Average
than.	20	I	II	1-6	2.20
very.	20	I	II	1-12	5.55
cost.	19	K	III	1-4	1.89
where.	20	K	II	1-21	6.65
because.	20	L	III	1-25	5.65
four.	20	L	III	1-5	5.00
business.	20	T	V	2-25	7.45
separate.	20	W	V	2-28	8.15
practical.	18	W	VII	1-4	2.17

FREQUENCY OF PRESENTATION

With regard to the frequency with which words are presented in the spellers to secure permanence of retention, there appears to be a complete state of confusion. Table V indicates that almost total disregard is shown for the generally accepted principle of psychology that the number of repetitions should be proportional to difficulty.

One might reasonably expect that words presented in the same grade and known to be approximately equal in spelling difficulty would be presented about the same number of times. Yet one speller presents such words once or twice while others present them from one to twenty-eight times. "Separate" is listed almost four times as often as is "practical," although their spelling difficulty is equal. Wide disagreement in amount of repetition is the general practice rather than the exception throughout the complete list of words common to eleven or more spellers.

SUMMARY AND COMMENTS

1. Complete analysis of twenty modern spellers reveals a total of 208,771 words, of which 13,641 are different words. Only 884 words (6.48 per cent) are common to all twenty spellers. Four thousand, one hundred and ninety-one words (30.72 per cent) are found in but one book, 6,860 (50.29 per cent) in three or fewer, 10,011 (73.39 per cent) in ten or fewer, and only 3,630 (26.61 per cent) in eleven or more.

2. The 3,630 words common to eleven or more spellers approximate the number of words that a child will ordinarily need to spell for writing purposes.

3. Of the 3,630 words common to eleven or more spellers, 153 words do not appear in the Commonwealth List. Sixty-one of these 153 words are reported by Breed.

4. The initial grade placement of words shows far greater variability than does the selection of words for the spelling vocabulary. Only fifty-four words common to five or more spellers are placed in the same initial grade.

5. Agreement on the location of words within particular grades is close in Grades I, II, VII, and VIII. In Grades IV, V, and VI the disagreement is marked. Greatest variability is found in Grade V.

6. The range of frequency with which words are repeated indicates that experts now use no generally accepted principle for presentation of words. This statement applies even to words known to be of approximately equal spelling difficulty which are presented in the same grade. Data not presented here show that only eleven words

of the 3,630 common to eleven or more spellers are presented at least two times in all books in which they appear.

7. Eleven hundred and three of the 3,630 words common to eleven or more of the spellers are not listed in Buckingham's Extension of the Ayres Spelling Scale, the Iowa Spelling Scales, the Sixteen Spelling Scales, or the Youngstown Spelling Scale.

8. Lack of agreement in the choice of words that should form the spelling vocabulary for elementary-school children may result principally from (a) differences in kinds and amounts of research material used and (b) differences in interpreting data.

9. It is recommended that extensive, scientific investigations be made of the free, undirected, and uncontrolled writing of children at various school-grade levels.¹ Such investigations might reveal much additional information concerning children's writing vocabularies and the much confused problem of grade placement.

10. Examination of spelling textbooks published since this study was begun indicates that the inclusion of such books would not have altered appreciably the findings of this investigation with respect to the spelling vocabulary, grade placement, and repetition for retention.

11. There is much practical need for further extension of spelling scales, such as the Ayres scale and the Youngstown Spelling Scale.

¹ Since this article was written, reports of Fitzgerald's work in this field have been published. See James A. Fitzgerald, "The Vocabulary of Children's Letters Written in Life outside the School," *Elementary School Journal*, XXXIV (January, 1934), 358-70.

TRENDS IN THE EMPHASIS ON VARIOUS TOPICS OF ARITHMETIC SINCE 1860

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The curriculum may be thought of as consisting in (1) the aims, the objectives, or the purposes of teaching a subject and in (2) the topics and learning exercises of the subject. The curriculum is not fixed. It is changing in its nature, and it exhibits the aims and the topics and learning exercises which the leading educators of the various periods of time consider best for the educational advancement of the race. Philosophers, psychologists, and educators have, from time to time, shifted their points of view with respect to the proper emphasis in securing what is termed an "education," and the type of learning exercises emphasized have varied accordingly. However, it must not be forgotten that, when a certain type of subject matter has once been added to the curriculum, tradition tends to keep it there, and the elimination of such matter is secured much more slowly than was the addition to the curriculum. Because of this fact and others, practice usually lags behind theory, and the contents of textbooks and of courses of study do not always reflect that which the leading educators desire at a given time.

Arithmetic has been a prominent elementary-school subject ever since it was introduced into the schools of America, and it reflects, in a general way, the trend of thought of the leaders in the field of education. From the beginning, arithmetic was taught because of its practical utility. It was regarded as a necessary tool for those who entered the business of making a living, but many persons considered that it possessed little general educational value. Changes in our business and in our social life brought about changes in the arithmetic requirements. Hence, some learning exercises which were very valuable at one period of time were found to have little, if any, practical application in another period, and exercises applicable to new developments in the business and the social world had to take the

place of the exercises which were found to be obsolete. Because such antiquated exercises were usually slow to drop out, the arithmetic curriculum became overcrowded or at least heavily loaded with learning exercises which no longer had any practical applications.

Arithmetic was conceded general educational or disciplinary value by some psychologists, philosophers, and educators. During the time when "faculty psychology" was at its height and mental discipline was regarded as the chief aim of education, many learning exercises which were thought to possess the quality of developing the mind found their way into the arithmetic curriculum. Mental arithmetic, especially, was regarded as a subject par excellence for the development of the mind. The fact that arithmetic was considered a subject which possessed both a practical and a disciplinary value and the fact that it is a subject which can be taught with comparative ease (after a fashion, at least) even by inexperienced teachers led to a marked emphasis on the subject. In the majority of schools it was allotted more than its proportionate share of the school time.

About 1880 an increasing number of public criticisms of the enormous amount of time devoted to arithmetic began to appear. At first, these criticisms merely served to call the attention of educators and teachers to the fact that a large portion of the school time was allotted to the study of arithmetic and that the results in most cases were not commensurate with the time devoted to the subject. A number of years passed before serious attempts were made to remedy the situation. A few authors of textbooks in arithmetic, however, eliminated from their books certain topics which were regarded as obsolete or unnecessary.

In 1887 Francis A. Walker, criticizing arithmetic as it was taught in the Boston public schools, suggested that less time be devoted to its study and that certain topics be eliminated. The Boston school board acted on Walker's recommendations and voted to reduce the time allotted to arithmetic and to eliminate from the required course the following topics: mensuration of the trapezoid, trapezium, prism, pyramid, cone, and sphere; compound interest; cube root and its applications; equation of payments; exchange; similar surfaces;

the metric system; and compound proportion and partnership.¹ The action of the Boston school board was, perhaps, the beginning of what became more-or-less concerted action in bringing about a change in the arithmetic curriculum throughout the United States.

In 1893, in the *Report of the Committee of Ten on Secondary School Studies*, the following recommendations were made:

Among the subjects which should be curtailed, or entirely omitted, are compound proportion, cube root, abstract mensuration, obsolete denominate quantities, and the greater part of commercial arithmetic. Percentage should be rigidly reduced to the needs of actual life. In such subjects as profit and loss, bank discount, and simple and compound interest, examples not easily made intelligible to the pupil should be omitted. Such complications as result from fractional periods of time in compound interest are useless and undesirable.²

The Committee of Fifteen, reporting in 1895,³ was fully convinced that arithmetic was receiving too much emphasis in the schools and recommended that obsolete and impractical parts of the subject be eliminated.

Frank M. McMurry, in an address before the Department of Superintendence in 1904,⁴ suggested a list of topics which he felt should be eliminated. In general, his list agreed with the eliminations recommended by the Committee of Ten.

In 1911 G. M. Wilson published a course of study in arithmetic for the public schools of Connersville, Indiana, based on the results of a questionnaire study of the business requirements of the community. He recommended that the following eliminations be made:

Long method of greatest common divisor; most of least common multiple; long, confusing problems in common fractions; long method of division of fractions (always invert and multiply); complex and compound fractions, apothecary

¹ Francis A. Walker, *Discussions in Education* (edited by James Phinney Munroe), pp. 235-36. New York: Henry Holt & Co., 1899.

² *Report of the Committee of Ten on Secondary School Studies, with the Reports of the Conferences Arranged by the Committee*, p. 105. Chicago: Published for the National Education Association by the American Book Co., 1894.

³ *Report of the Committee of Fifteen on Elementary Education, with the Reports of the Sub-Committees*, pp. 53-58. Chicago: Published for the National Education Association by the American Book Co., 1895.

⁴ Frank M. McMurry, "What Omissions Are Advisable in the Present Course of Study and What Should Be the Basis for the Same?" *Journal of Proceedings and Addresses of the Forty-third Annual Meeting of the National Education Association* (1904) p. 198.

caries' weight; troy weight; the furlong in long measure; the rood in square measure; dram and quarter in avoirdupois weight; the surveyor's table; the table of folding paper; tables of foreign money; all reduction of more than two steps; most of longitude and time; cases in percentage (make one case by using x and the equation); true discount; most of compound and annual interest; partial payments, except the simplest; profit and loss as a separate topic; partnership; cube root; the metric system.¹

In 1915 Walter A. Jessup published a summary of the result of a study of 867 replies to a questionnaire received from city superintendents of schools. After carefully studying the opinions of the superintendents who stated what they felt should be eliminated from the arithmetic curriculum, Jessup recommended that the following eliminations be made:

Apothecaries' weight, alligation, aliquot parts, annual interest, cube root, cases in percentage, compound and complex fractions of more than two digits, compound proportion, dram, foreign money, folding paper, the long method of greatest common divisor, longitude and time, least common multiple, metric system, progression, quarter in avoirdupois table, reduction of more than two steps, troy weight, true discount, unreal fractions.²

In 1925, in the arithmetic report in the Third Yearbook of the Department of Superintendence, the following list of arithmetic topics was proposed for elimination from the curriculum:

Compound numbers, addition, subtraction, multiplication, division; greatest common divisor and least common multiple beyond the power of inspection; long confusing problems in common fractions; complex and compound fractions; reductions of denominate numbers; cases two and three in percentage; annual interest; compound interest, except savings; partial payments; true discount; proportion; ratio beyond the ability of fractions to satisfy; partnership with time; longitude and time; exchange, domestic and foreign; apothecaries' weight; troy weight; table of folding paper, surveyor's table, table of foreign money; much of mensuration—trapezoid, trapezium, polygons, frustums, spheres; cube root; the metric system.³

¹ G. M. Wilson and the Connersville (Indiana) Teachers, *Connersville Course of Study in Mathematics for the Elementary Grades*, p. 14. Baltimore: Warwick & York Inc., 1922 (revised). [Originally published in 1911.]

² Walter A. Jessup, "Current Practices and Standards in Arithmetic," *Minimum Essentials in Elementary School Subjects—Standards and Current Practices*, p. 118. Fourteenth Yearbook of the National Society for the Study of Education, Part I Chicago: University of Chicago Press, 1915.

³ *Research in Constructing the Elementary School Curriculum*, p. 41. Third Yearbook of the Department of Superintendence. Washington: Department of Superintendence of the National Education Association, 1925.

It is interesting to note that a considerable number of the topics suggested for elimination appear in several of the lists cited and that a few appear in all the lists. In 1925 the Department of Superintendence recommended the elimination of topics which the Boston school board voted out of the arithmetic curriculum for the Boston public schools in 1887. This recommendation makes it appear that topics which in 1887 were considered obsolete were being retained in the arithmetic curriculums of some of the leading school systems thirty-eight years after they had been definitely voted out of the curriculums of other systems. The writer's study of the arithmetic curriculum reveals that such was not the case. Many of the topics which were recommended for elimination had not received much attention at any time, and by 1900 many of them had disappeared entirely from the arithmetic textbooks and courses of study.

The writer examined about 250 textbooks in arithmetic and systematically analyzed 55 of those that were widely used in the elementary schools during different periods. When an arithmetic textbook was adopted, it usually determined largely what was taught in that subject in the school in which it was adopted. Thus, a fairly accurate knowledge of the content of the arithmetic curriculum may be obtained through a study of the content of the representative textbooks in arithmetic used in the schools. An analysis of widely used textbooks does not, of course, determine absolutely what was taught, but, since only books which had a wide use were selected, they probably give a fair sampling of what school authorities believed should be taught. In addition to the textbooks a large number of courses of study and examination questions were also examined. Thus, the findings of the textbook analysis were substantiated.

Of the fifty-five textbooks selected for analysis, ten were published before 1860; fifteen, between 1860 and 1892, inclusive; fifteen, between 1893 and 1914; and fifteen, between 1915 and 1933. Five primary, five intermediate, and five advanced textbooks in arithmetic were selected for each of the three periods after 1860.

Whether a textbook was widely used was determined by (1) the number of editions through which it passed, (2) the amount and the character of the mention which it received in educational literature,

and (3) the number of times it was mentioned as a basic textbook in courses of study for various school systems.

The learning exercises in each textbook were counted and classified into the following two divisions: (1) problems, including those learning exercises in which the operations to be performed were not directly indicated for the pupil; and (2) abstract examples, including those learning exercises in which the operations to be performed were indicated for the pupil. When several problems or abstract examples were included under one number by the author of a textbook, each problem or example was counted as a unit because each was in reality a distinct learning exercise.

The learning exercises were then further grouped into the following eleven classifications according to the arithmetic topics treated: (1) notation and numeration, (2) four fundamental processes with integers, (3) common fractions, (4) decimal fractions, (5) denominate numbers, (6) mensuration, (7) commercial or business topics, (8) ratio and proportion, (9) involution and evolution, (10) theory of numbers, and (11) miscellaneous exercises.

Classifying the topics under the various major heads was sometimes difficult. To eliminate overlapping was impossible, but an attempt was made to reduce it to a minimum. Such overlapping as remained was not serious enough to prevent the possibility of indicating the relative emphasis placed on the various topics, if the number of learning exercises devoted to a given topic may be accepted as a criterion for determining such emphasis.

The analyses showed that notation and numeration received progressively less emphasis during each succeeding period after 1860. The four fundamental processes with integers always received considerable emphasis, but there was a marked increase in the attention given to this topic in all the textbooks during the period 1915-33. Common fractions were emphasized more in the intermediate textbooks and less in the primary and the advanced textbooks during the period 1915-33 than during earlier periods. The relative emphasis on decimal fractions changed little, though there was a slight decrease from the period 1893-1914 to the period 1915-33. The topic does not appear as such in the primary textbooks for the period 1915-33, but pupils gain some familiarity with it through exercises

dealing with United States money. Denominate numbers received progressively less emphasis in the intermediate and the advanced textbooks for each succeeding period, but in the primary textbooks little change is shown. Mensuration received less emphasis in the later books. It did not appear in the primary and the intermediate textbooks for the period 1915-33, but exercises of a similar nature designated as "practical measurements" did appear in those textbooks. Commercial or business subjects were always given considerable attention, although the topic received increased emphasis beginning with the period 1893-1915, especially in the advanced textbooks. Ratio and proportion received progressively less emphasis and in the latest period occupied a very minor place in most textbooks. Involution and evolution is another topic which received progressively less emphasis and in the more modern textbooks was practically confined to a few simple exercises in squares and square roots. Theory of numbers received progressively less emphasis from period to period. Miscellaneous exercises as a topic received progressively more emphasis. The latest textbooks contained a great variety of practical problems which were classified under this topic.

There has been little change in the emphasis on simple and compound denominate numbers except for a marked decrease in the advanced textbooks for the period 1915-33. Practical measurements received progressively more emphasis and was a topic of considerable importance in the latest textbooks. Not much change is shown in the relative emphasis on longitude and time except for the period 1915-33, when the topic was given less attention than was given it in the earlier periods. The topic was not treated in any primary textbooks analyzed and for the period 1915-33 appeared in the advanced textbooks only. Differences between dates as a distinct topic never received much emphasis and did not appear as such in the textbooks for the period 1915-33. United States money received progressively more emphasis in the primary arithmetics but at the same time received progressively less emphasis in the intermediate textbooks. In the advanced books for the period 1915-33, the topic received less emphasis than for the periods preceding 1893 but more than for the period 1893-1914. Foreign money and exchange was given little attention in the arithmetics for the latest

period. The topic received progressively less emphasis except that in the advanced textbooks for the period 1893-1914 it was given considerable attention. Denominate fractions did not appear in any of the textbooks analyzed for the periods following 1893. The metric system was not legalized in the United States until 1866. The topic received considerable attention in both the intermediate and the advanced textbooks shortly after this date. Among the arithmetics analyzed for the periods following 1892, the topic appeared in the advanced textbooks only, and during the period 1915-33 there was a slight decrease in the relative emphasis placed on this topic.

Percentage received considerable emphasis during all the periods. Since 1893 the topic has appeared only in the intermediate and the advanced textbooks. Interest, while considered an important topic at all times, received less emphasis during the period 1915-33 than during the preceding periods. Partial payments received little attention; only 193 exercises which involved the topic appeared in the fifty-five textbooks analyzed. Only one book analyzed for the period 1915-33 gave any recognition to partial payments, and it contained but four exercises involving the topic. There was little change in the relative emphasis placed on stocks, bonds, and other investments since 1860. In 1915-33 the topic was largely confined to the advanced textbooks, and there was a slight increase in the amount of emphasis given to it. There was but a slight change in the relative emphasis on commission and brokerage. During the period 1915-33 there was some decrease in the number of exercises devoted to the topic. The topic of taxes, duties, revenues, etc., was given progressively more emphasis. In the periods beginning with 1893 the topic appeared in both the intermediate and the advanced textbooks. Banking, savings accounts, etc., were given an increased amount of attention. The topic received about an equal amount of emphasis in the intermediate and the advanced textbooks for the period 1915-33. For the two periods following 1892 insurance appeared only in the advanced textbooks. In general, it received about the same relative emphasis during all periods. Annuities was a topic of some importance before 1860. The topic did not appear in any of the books analyzed for the two periods following 1892. Bills and simple accounts received progressively more emphasis. Partnership, as a topic, was not included in the latest textbooks. In the arithmetics analyzed for

the two periods following 1892, there were only thirty problems relating to the topic. Equation of payments did not appear in any of the textbooks analyzed for the two periods following 1892. Barter, as a topic, did not appear in the arithmetics analyzed for the periods following 1860. In the books analyzed for the period before 1860, there appeared but four problems which involved the topic. However, problems appeared in some of the textbooks for 1915-33 which in reality were problems in barter. Practice and aliquot parts received progressively more emphasis up to about 1915. In the books analyzed for the period 1915-33, the topic was given less attention than was given it earlier. Alligation did not appear in any of the textbooks analyzed for the periods following 1892. Miscellaneous topics received increased emphasis, especially in the period 1915-33. Very few problems were devoted to promissory notes in any of the arithmetics. As a topic, this subject was given separate space only in some of those textbooks which were analyzed for the two periods following 1892. During the period 1915-33 the topic was given slightly more attention than during the preceding period.

Among the topics which have been dropped from the arithmetic curriculum in the elementary school are the following: arbitration of exchange; circulating decimals, duodecimals; gauging; position; progressions; permutation; tonnage of vessels; almost all obsolete tables of weights and measures, such as wine measure, ale and beer measure, and cloth measure; and many obsolete denominations.

Among the topics receiving less attention in the latest period are the following: least common multiple; greatest common divisor; and the less frequently used forms of denominate numbers, such as troy weight, apothecaries' weight, government land measure, and surveyors' measure.

Among the topics receiving increased attention in the latest period are those which have an application in certain trades, such as papering, plastering, bricklaying, painting, calcimining, and carpentry.

The analysis of representative or widely used arithmetic textbooks shows that the lists of topics recommended for elimination or for less emphasis after 1900 included a number of topics which had already disappeared, some which were given only a minor place, and others which had never been given much attention and hence were an insignificant portion of the arithmetic curriculum at all times.

SELECTED REFERENCES ON FOREIGN EDUCATION

JAMES F. ABEL
United States Office of Education

Surveys of the effects of the economic depression on education in other countries; the first of a series of detailed studies of European policies in financing public education; the continuation of two leading education yearbooks, one of which is devoted to that controversial question, "The relation of the state to religious education"; a comprehensive description, country by country, of education in Latin America; a study of "poor whiteism" in South Africa; a history of the universities of France and foreign countries; a report on infant and nursery schools in England, the third of the Hadow reports; the findings of the intelligence testing of 87,498 school children of a single age group in Scotland; a condensed story of education in Spain; good compilations of the education laws in England and Wales and in Haiti; the reports of three very important international congresses (concerned with technical education, infancy, and education in a changing world); and various writings dealing with phases of nationalism in education, mark the past year as being one in which the output of literature on comparative education has at least equaled and probably has considerably surpassed that of previous years.

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In 1932 the bureau sent a questionnaire to many countries asking about the economies that it had been necessary for each to effect in the expenditures for education. The bulletin is a survey of the returns from sixty political divisions.

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BY COUNTRIES

AUSTRALIA

242. BIAGGINI, ERNEST GORDON. *English in Australia: Taste and Training in a Modern Community*. Educational Research Series of the Australian Council for Educational Research, No. 19. Melbourne: Melbourne University Press, 1933. Pp. 134.

The report of a series of unique tests to find out how the ordinary rather than the highly-educated man thinks. The testing was done by the very simple method of using two or more unsigned writings and asking for preferences and dislikes and the reasons.

243. COLLMANN, R. D., MARSHALL, A. J., and THOMAS, RUTH. *Three Studies in the Comparative Intelligence of English, American, and Australian Children*. Educational Research Series of the Australian Council for Educational Research, No. 22. Melbourne: Melbourne University Press, 1934. Pp. 70.

The authors report that the combined effect of their inquiries is "to provide rather striking evidence of the absence of significant variations in the general intellectual capacity of the populations between which comparison is made" (p. 5).

AUSTRIA

244. SIEGL, MAY HOLLIS. *Reform of Elementary Education in Austria*. New York: Columbia University, 1933. Pp. vi+146.

Traces the development of the school system of Austria from the establishment of the republic in 1918 to 1932.

BELGIUM

245. BERTRANG, A. *Histoire de l'athénée royal d'Arlon*. Arlon: A. Willems, 1929. Pp. 528.

The history of a secondary school in Belgium. The school is typical of the Royal Athénées.

BRITISH WEST INDIES

246. GREAT BRITAIN COLONIAL OFFICE. *Report of a Commission Appointed To Consider Problems of Secondary and Primary Education in Trinidad, Barbados, Leeward Islands, and Windward Islands, 1931-32*. Colonial Report, No. 79. London: His Majesty's Stationery Office, 1933. Pp. 128.

The commission points out that education in the British West Indies is not up to the standard of that in other British colonies and offers plans for its improvement.

CANADA

247. *Annual Survey of Education in Canada, 1932.* Ottawa: Dominion Bureau of Statistics, 1933. Pp. xlv+124.

The latest official comprehensive report on education in the Dominion.

CHILE

248. GALDAMES, LUIS. "La reforma de la educación secundaria en 1928," *Anales de la Universidad de Chile*, Año II, Tercer trimestre de 1932, 3a Serie, pp. 5-82.

A clear factual statement about secondary education in Chile.

CHINA

249. PEAKE, CYRUS H. *Nationalism and Education in Modern China.* New York: Columbia University Press, 1932. Pp. xiv+240.

Covers the period from 1860 to 1930. The thesis is that the dominant motive and aim of the Chinese leaders for the past seventy years has been to build a strong nation resting on military power and capable of existing in a world of warring nations and that the system of education has been planned and used to further that aim.

250. 'TSANG, CHIU-SAM. *Nationalism in School Education in China since the Opening of the Twentieth Century.* Hong Kong: South China Morning Post, Ltd., 1933. Pp. 242.

Points out the nationalistic implications of school education in China and shows how nationalism has affected the school and has in turn been affected by it.

COLOMBIA

251. *Disposiciones vigentes sobre instrucción pública de 1927 a 1933.* Bogotá: Ministerio de Educación Nacional, 1933. Pp. 336.

The school laws of Colombia for the years 1927 to 1933.

252. *Memoria del ministro de educación nacional al congreso de 1933.* Bogotá: Editorial Cromos, 1933. Pp. 470.

The official annual report on education in Colombia made by the Minister of National Education to the Congress.

253. *Programas de ensayo para las escuelas primarias.* Bogotá: Inspección Nacional de Educación, 1933. Pp. 174.

The new official programs for primary education.

CZECHOSLOVAKIA

254. *Manuel statistique de la république Tchécoslovaque, IV.* Prague: Édition de l'Office de Statistique, 1932. Pp. 488.

Contains the statistics of education in Czechoslovakia for the years 1921-22 to 1929-30.

ECUADOR

255. *Informe del ministro de educación pública a la nación, 1933*. Quito: Imprenta Nacional, 1933. Pp. 206+tables and graphs.
The official annual report of the Minister of Public Education.

FEDERATED MALAY STATES

256. *Annual Report of the Education Department for the Year 1932*. Kuala Lumpur: Federated Malay States Government Press, 1933. Pp. 100.
The official annual report. Contains a brief historical account as well as the data for 1932.

FRANCE

257. AUTIN, ALBERT. *L'École unique*. Paris: Librairie Félix Alcan, 1933. Pp. 160.

Another book on the proposal to establish a unity school system in France. Pierre A. Dufrenne published a work on the same subject in 1932 (Item 209 in the list of selected references appearing in the June, 1933, number of the *Elementary School Journal*).

258. BOUCHET, HENRI. *L'Individualisation de l'enseignement: L'individualité des enfants et son rôle dans l'éducation*. Paris: Librairie Félix Alcan, 1933. Pp. 522.

In five parts—critique of "sociologism," the individuality and its laws, the laws of individuality and pedagogical practice, the lesson of facts, and historical ideas on the individualization of instruction—the book deals with many of the most modern concepts of education.

259. IRSAY, STEPHEN D'. *Histoire des universités, françaises et étrangères, des origines à nos jours*: I. "Moyen âge et renaissance." Paris: Éditions Auguste Picard, 1933. Pp. 372.

"A general history of the universities has never been written," says the author as an excuse for presenting his work to the public. He attempts to keep a proper balance between the history of thought as thought and the history of the institutions, in which thought is manifested, as institutions. He succeeds remarkably well.

260. SWIFT, FLETCHER HARPER. *The Financing of Institutions of Public Instruction in France*. European Policies of Financing Public Educational Institutions, Vol. I. University of California Publications in Education, Vol. VIII, No. 1. Berkeley, California: University of California Press, 1933. Pp. xvi+180.

The first of a series of studies that will deal with educational financing abroad.

GERMANY

261. ABEL, JAMES F. "Nazi Education," *School Life*, XIX (February, 1934), 113, 129.

A summary of a comprehensive survey, published by the *Zentralinstitut für Erziehung und Unterricht*, of the changes which the National Socialist régime has made in education in Germany.

262. SCHUMANN, HANS JOACHIM VON. "Die nationalsozialistische Erziehung im Spiegel der Erlasse," *Pädagogisches Zentralblatt*, XIII (September-October, 1933), 445-57.

A survey of the changes which the National Socialistic régime had actually made in education in Germany up to the time that the article was written.

GREAT BRITAIN

263. ARACHINE. "A 'Non-literary' Experiment," *Schoolmaster and Woman Teacher's Chronicle*, CXXV (January 18, 1934), 89-96.

The report of a valuable experiment (1) to discover and segregate a number of typical non-literary pupils; (2) to inquire into whether the lack is temperamental or accidental; and (3) if it is remediable, to find adequate remedies.

264. BROWN, J. HOWARD. *Elizabethan Schooldays*. Oxford: Basil Blackwell & Mott, Ltd., 1933. Pp. 174.

An account of the English grammar schools in the second half of the sixteenth century.

265. BURSTALL, SARA ANNIE. *Retrospect and Prospect: Sixty Years of Women's Education*. London: Longmans, Green & Co., 1933. Pp. xvi+286.

A very interesting account of the progress made in women's education since 1874.

266. FITCH, MIRIAM G. "Joseph Payne, First Professor of Education in England," *Journal of Education* (London), LXVI (February, 1934), 96-97.

A biographical sketch.

267. GREAT BRITAIN BOARD OF EDUCATION. *An Experiment in Rural Reorganization*. Educational Pamphlet No. 93. London: His Majesty's Stationery Office, 1933. Pp. 40.

An account of a scheme being carried out by the East Suffolk Local Education Authority to reorganize their schools for older children on the lines of the Hadow report.

268. GREAT BRITAIN BOARD OF EDUCATION. *Handbook of Suggestions on Health Education for the Consideration of Teachers and Others Concerned in the Health and Education of School Children*. London: His Majesty's Stationery Office, 1933. Pp. 112.

Written to encourage teachers to create in the minds of boys and girls during the age of adolescence an understanding of, and a desire for the cultivation of, health.

269. GREAT BRITAIN BOARD OF EDUCATION. *An Outline of the Structure of the Educational System in England and Wales*. Educational Pamphlet No. 94. London: His Majesty's Stationery Office, 1933. Pp. 46.

The educational system of England is not easy to understand, and this pamphlet will be very welcome to students of comparative education.

270. GREAT BRITAIN BOARD OF EDUCATION. *Public Education in England and Wales*. Educational Pamphlet No. 100. London: His Majesty's Stationery Office, 1934. Pp. 18.

This pamphlet is made up entirely of statistical summaries of education in England and Wales for the years 1913-32, inclusive.

271. GREAT BRITAIN BOARD OF EDUCATION. *Report of the Consultative Committee on Infant and Nursery Schools*. London: His Majesty's Stationery Office, 1933. Pp. 282.

The third of a remarkable series of studies, the first two of which are *The Education of the Adolescent* and *The Primary School*. The study was made under the terms of reference: "To consider and report on the training and teaching of children attending nursery schools and infants' departments of public elementary schools, and the further development of such educational provision for children up to the age of 7+."

272. GREAT BRITAIN BOARD OF EDUCATION. *Syllabus of Physical Training for Schools*, 1933. London: His Majesty's Stationery Office, 1933. Pp. 352.

The Great Britain Board is convinced that the development of good physique is vital to the welfare and even to the survival of the race and issues this syllabus in the hope that it will yield an abundant harvest of recreation, improved physique, and national health.

273. INSTITUTE OF INTERNATIONAL EDUCATION. *Guide Book for American Students in the British Isles*. New York: Institute of International Education, Columbia University, 1933 (revised). Pp. 104.

Contains much valuable information for American students who wish to study in Great Britain.

274. JEWKES, JOHN, and WINTERBOTTOM, ALLAN. *Juvenile Unemployment*. London: George Allen & Unwin, Ltd., 1933. Pp. 160.

Outlines the extent and the character of juvenile unemployment in Lancashire and Cumberland and the palliatives that have been adopted.

275. MARRIOTT, SIR JOHN A. R. *Oxford: Its Place in National History*. New York: Oxford Press, 1933. Pp. vi+206.

An attempt to show by a series of sketches what Oxford University has contributed to the history of the English people.

276. SIMMONDS, H. J., and NICHOLLS, A. W. *Law of Education*. London: Sir Isaac Pitman & Sons, Ltd., 1933. Pp. xxvi+266.

A valuable and accurate account of all the laws of education in England and Wales, except the laws relating to universities, which the authors consider to be a separate subject.

277. STEPHEN, BARBARA. *Girton College, 1869-1932*. Cambridge: Cambridge University Press, 1933. Pp. viii+202.

A valuable addition to the history of the development of higher education for women.

HAITI

278. BOUCHEREAU, CHARLES, and HERAUX, HERMANN. *Législation scolaire concernant les lois, arrêtés, règlements, et contrats régissant les différents ordres de l'enseignement avec les programmes officiels y relatifs ainsi que les lois et arrêtés organisant le Département de l'Instruction Publique et l'Université d'Haiti*. Port au Prince: Imprimerie Aug. A. Heraux, 1933. Pp. 276.

All the laws, orders, and decrees with respect to education in force in Haiti.

INDIA

279. ALL INDIA FEDERATION OF TEACHERS' ASSOCIATIONS. *Report of All Asia Educational Conference—Benares, December 26-30, 1930*. Allahabad: Indlan Press, Ltd., 1931. Pp. 836.

The report of an unusual conference attended by some fifteen thousand educators from nearly all countries of Asia. Valuable in helping occidental educators to understand oriental education.

280. SEN, J. M. *History of Elementary Education in India*. Calcutta: Book Co., Ltd., 1933. Pp. 314.

Traces the history of elementary education in India from earliest times to 1932.

281. *Statement Exhibiting the Moral and Material Progress and Condition of India during the Year 1931-32*. London: His Majesty's Stationery Office, 1933. Pp. 238.

Includes a chapter on health and education.

IRAQ

282. *Report of the Educational Inquiry Commission*. Baghdad: Government Press, 1932. Pp. 170.

The report of a thorough survey of education in Iraq made by a commission appointed by the Ministry of Education of that country.

JAPAN

283. *Fifty-fifth Annual Report of the Minister of State for Education for the Second Statistical Year of Shōwa (1927-1928)* (abridged). Tokyo: Department of Education, 1933. Pp. 524+graphs.

This report, printed in the English language, regularly contains statistics in considerable detail. Usually the data cover periods from four to five years before the year of issuance.

284. KASUYA, YOSHI. *A Comparative Study of the Secondary Education of Girls in England, Germany, and the United States, with a Consideration of the Secondary Education of Girls in Japan*. Teachers College Contributions to Education, No. 566. New York: Teachers College, Columbia University, 1933. Pp. x+212.

A study to discover tendencies and problems in the education of girls in the three countries named and to apply them tentatively to the reforms needed in the secondary education of girls in Japan. Based largely on first-hand observation in the countries concerned.

KENYA COLONY AND PROTECTORATE

285. *Education Department Annual Report of 1932*. Nairobi: Government Printer, 1933. Pp. 132.

The official annual report, illustrative of education activities in the colonial divisions of the British Commonwealth of Nations.

NEW ZEALAND

286. BUTCHERS, A. G. *The Education System: A Concise History of the New Zealand Education System*. Auckland: National Printing Co., Ltd., 1932. Pp. 254.

While this book is not an official publication, it is commended by the Education Department as a concise and generally accurate history of education in New Zealand from the earliest days of European settlement to 1932.

SCOTLAND

287. *The Intelligence of Scottish Children*. Publications of the Scottish Council for Research in Education, No. V. London: University of London Press, Ltd., 1933. Pp. x+160.

The report of an ambitious experiment in which 87,498 Scottish children born in 1921 were tested to determine the average level of intelligence in that age group.

SOUTH AFRICA

288. *The Poor White Problem in South Africa: Report of the Carnegie Commission*. Stellenbosch: Pro Ecclesia-Drukkery, 1932. 5 volumes.

The report is published in five parts; the third deals with the poor white and education. Written from the point of view that "poor whiteness" is a symptom rather than a disease and that anything which contributes to the all-round building-up of the social and the economic organism will diminish "poor whiteness."

SOVIET UNION

289. CONUS, DR. ESTHER. *Protection of Motherhood and Childhood in the Soviet Union*. Moscow: State Medical Editorship, 1933. Pp. 118.

A clear, factual statement, well illustrated. Some statistics are included.

290. HESSEN, SERGIUS, and NIKOLAUS, HANS. *Fünfzehn Jahre Sowjetschulwesen*. Berlin: Julius Beltz, 1933. Pp. 260.

A good review of education in the Soviet Union from 1917 to 1932. Includes a reasonable amount of statistical data.

291. TROW, WILLIAM CLARK (Editor). *Character Education in Soviet Russia*. Translated by Paul D. Kalachov. Ann Arbor, Michigan: Ann Arbor Press, 1934. Pp. 200.

Consists of five chapters, each written by a different person, on the Young Pioneers of the Soviet Union.

SPAIN

292. CASTRO MARCOS, MIGUEL DE. *Legislación vigente de instrucción pública referente a los institutos de segunda enseñanza*. Madrid: Imprenta de L. Rubio, 1934. Pp. 360.

The laws governing secondary education in Spain.

293. MACANDREW, R. M. "Outline of Spanish Education," *Scottish Educational Journal*, XVI (September 8, 1933, to December 1, 1933, inclusive), 1032-33, 1057-58, 1096-97, 1122-24, 1148-49, 1180-81, 1205-6, 1232, 1293-94, 1326-27, 1354-55, 1384-85.

A sketch of education in Spain to and including the second republic.

STRAITS SETTLEMENTS

294. *Annual Report of the Education Department for the Year 1932*. Singapore: Government Printing Office, 1933. Pp. 74.

The official annual report. Contains a brief history of education in the Settlements and a good account of its condition in 1932.

SWITZERLAND

295. BÄHLER, EMMA L. *Die Organisation des öffentlichen Schulwesens der Schweiz*. Zurich: Kommissionsverlag von Rascher & Cie., 1932. Pp. 216.

A handbook which gives in detail the organization of instruction in each of the cantons of Switzerland.

VENEZUELA

296. GRISANTI, ANGEL. *La instrucción pública en Venezuela*. Barcelona, Venezuela: Casa Editorial Araluce, 1933. Pp. 198.

Few good historical descriptive accounts of education in Latin America are available. This brief account of public instruction in Venezuela helps to make up that lack.

Educational Writings

REVIEWS AND BOOK NOTES

A combination of theological orthodoxy and scientific psychology.—Dr. William A. Kelly, professor of education at Creighton University, has made available for students in Catholic teacher-training institutions many of the results of modern psychology and has at the same time included in his exposition the elements of orthodox ecclesiastical psychology. The second chapter of Dr. Kelly's book¹ has the title "The Soul" and presents in the most emphatic form the doctrine of an "ultimate substantial permanent principle which governs the conscious life of man." In later chapters also, such as that on "The Will," the theological doctrines of the church are stoutly defended. The freedom of the will is discussed in a way which is difficult for an ordinary reader to reconcile with the immediately following chapter entitled "Habit Formation." The chapter on habit presents an empirical discussion based on laboratory experiments and neurological studies. The general classification of mental processes is the traditional classification, beginning with sensations and ending with the intellect.

In spite of the conformities referred to in the foregoing paragraph, the book contains much strictly modern experimental material. The treatment of this material is somewhat encyclopedic, but the author has incorporated in full detail a large amount of information derived from scientific measurements. The book is by far the best summary of modern psychology that has been prepared specifically for prospective teachers in Catholic schools. In addition to its summaries of materials, it contains sections, such as the chapter on statistical techniques, which are designed to introduce students not only to the results of empirical studies but also to the scientific methods by which these results were secured.

CHARLES H. JUDD

A comprehensive investigation of the reorganization of secondary education.—At the beginning of the present century the form and the structure of American secondary education were readily distinguishable. Anyone who attended the secondary school of a decade ago can reconstruct in his imagination a detailed

¹ William A. Kelly, *Educational Psychology*. Milwaukee, Wisconsin: Bruce Publishing Co., 1933. Pp. xx+502. \$2.40.

picture of its organization. There would be little variation among many such reconstructions, all would reproduce a simply organized, departmentalized type of four-year high school in which was offered a standardized range of subjects. Nevertheless, in that type of traditional high school a popularization of secondary education which seems to know no limits first took root in the popular mind, and this wide acceptance of the public high school unexpectedly forced upon it many new demands, which in turn forced it into a course of novel adventures. As a result, secondary education has assuredly turned out to be a very different thing from what it was conceived to be a brief quarter of a century ago.

A manifest need for some form of appraisal of the subsequential forms of reorganization has been felt for some time by all who are interested in educational movements. Most investigators have been deterred from attempting to answer the demand by the sizeableness of the task. Studies like that of Koos on the junior college and Beatley on the junior high school furnished excellent beginnings, although each bore on only a single unit of reorganization. A monograph¹ which has recently been issued has given, in a much more comprehensive way than would be possible if the enterprise had been left to individual initiative, this much desired appraisal of the existing forms of reorganization.

The monograph is divided into three parts dealing with the reorganized secondary school, recent growth and present status of public junior colleges, and special reorganizations of school systems. In Part I the reader may obtain an accurate and complete picture of the spread of the movement for reorganization and a scholarly analysis of results. Then follow (what is infrequently found in surveys) eight chapters of an evaluative nature in which comparative promise of various types of organization is appraised. In Part II the recent growth and the present status of the public junior college are brought up to date. In Part III an intensive and analytical description of the reorganization efforts put forth in a number of well-selected school systems is given. The systems and schools considered are of two types: those in which the reorganizations are largely for the purpose of economizing time and those in which the chief purpose of reorganizing has been to integrate the junior-college years with the high school.

At the very beginning of their treatment the authors face with praiseworthy frankness the big problem of the study, namely, that of distinguishing the more promising forms of organization from less promising forms. The pure objectivist may be disappointed that they have not used achievement tests, intelligence tests, teachers' ratings, information on training of teachers, and the like as bases for comparisons. Had the staff chosen to follow the method of direct comparison, it is likely that the study would have turned out to be just another survey. But the merit of the survey, in the opinion of the writer, lies in the fact that the staff has chosen to go beyond simple survey procedure and enter into the realm of educational theory. They first set up a definition of organization. They then

¹ Francis T. Spaulding, O. I. Frederick, and Leonard V. Koos, *The Reorganization of Secondary Education*. National Survey of Secondary Education Monograph No. 5. United States Office of Education Bulletin No. 17, 1932. Pp. xii+424.

list nine major features of school practice which should be taken into account in describing the organization of a single school. Then two assumptions of major importance are made: First, it is assumed that the more arrangements a school makes in connection with any of its major features, the better organized that school is likely to be with respect to the feature in question. Second, it is assumed that the extent to which a school makes adequate provision for all its major features at once is a measure of the further value of organization. The term "comprehensiveness" is employed as a designation for the first assumption. The term "consistency" is used to designate the second. The staff then scored a large number of schools of all types of organization on the basis of their comprehensiveness and consistency of organization. These scores furnished the materials for the chapters on results of reorganization and on the comparative analysis of types which give the greater promise.

The values of the monograph are manifold. It affords an accurate picture of the whole movement toward reorganization in secondary education. It furnishes standards in the light of which local school administrators can judge their own organizations. It advances workable criteria which administrators of junior and senior high schools can use in organizing their own schools. The "comprehensive-consistency" idea will help many an administrator to think concretely in terms of the whole of his organization. It brings to the forefront, too, some of the difficulties which have to be surmounted before reorganization can be achieved. The chemistry experiment and the attempts to experiment with other subjects at Joliet serve as good illustrations.

The monograph will be studied by many types of readers. It furnishes those in charge of elementary education a dependable picture of what is going on in the unit immediately above. It will give to those in charge of university education a glimpse of the changes going on in the units preceding the years of the university. Those in the field of secondary education will necessarily be interested in various phases of the survey, the interest depending on the nature of their work. Some will be more interested in the results, some in the analyses of the comparative promise of various types of organization. Others may primarily wish to read the descriptive analyses of reorganizations set up for various purposes. Administrators of secondary schools will profit by carefully studying Part I, Division III: "The Improvement of Secondary-School Organization." All in the junior-college field will obtain much that is of value from Parts II and III. The study is so comprehensive and the treatment is so thorough that anyone seeking information about any phase of the reorganization of secondary education will wish to refer to some part of the monograph.

J. M. HUGHES

NORTHWESTERN UNIVERSITY

Provisions for individual differences in high school.—Somewhat more than forty years ago the elementary schools were brought face to face with the problem of "educating all the children of all the people." It soon became apparent

that all children could not be expected to profit from a uniform educational program. Provisions for individual differences had to be made. In more recent years, and particularly within the last five or six years, the secondary school has been receiving a much larger proportion of all the children of high-school age. Although the proportion has not yet reached 75 per cent for the high school, the secondary schools are realizing more fully that all their pupils cannot profit from a uniform program and many schools are struggling (shall we say "experimenting"?) with various provisions for individual differences. It is fortunate, therefore, that the National Survey of Secondary Education produced a most timely monograph¹ dealing with the ways in which secondary schools are trying to meet the problems growing out of the increasing variability of pupils.

This recent monograph of the National Survey is divided into four parts. Part I deals with homogeneous grouping and special classes; Part II covers plans characterized by the unit assignment; Part III takes up other provisions for individual differences; and Part IV summarizes practices in marking and promotion. The entire monograph, covering 472 pages, is loaded with factual information and interpretations of current practices. From the returns of the preliminary inquiry sent to 21,569 secondary schools in the United States, 8,594 forms were selected for intensive study and follow-up inquiry. The latter number included each form which indicated that any provision for individual differences had been put into practice with unusual success. It also included all other forms which were filled out by the respondents in every detail. These facts indicate that the report is without question the most complete body of material regarding provisions for individual differences in the secondary schools of the United States which is now available. The size and comprehensiveness of the report should make clear that it cannot be adequately discussed in a brief review such as is being attempted here. Consequently, the writer will confine himself to what appear to him to be a few of the outstanding findings.

Perhaps the most outstanding fact disclosed by this phase of the survey is that "comparatively few schools are making thorough provisions for individual differences" (p. 9). Without question, provisions for individual differences are innovations in the secondary schools. Although six different procedures are reported by more than a third of the schools, "no provision is reported in use with estimated unusual success by more than 9 per cent of the schools whose replies were tabulated" (p. 10). The total number of different provisions reported is twenty-eight. These are classified into the following seven categories: (1) homogeneous grouping, (2) special classes, (3) plans characterized by the unit assignment, (4) scientific study of problem cases, (5) variation in pupil load, (6) out-of-school projects and studies, and (7) advisory or guidance programs. Of the seven, the first three are found to constitute the core elements in a typically

¹ Roy O. Billett, *Provisions for Individual Differences, Marking, and Promotion*. National Survey of Secondary Education Monograph No. 13. United States Office of Education Bulletin No. 17, 1932. Pp. xii+472.

successful program to provide for individual differences. "These three form a kind of trinity, a sort of three-in-one answer of the nation's outstanding schools to the problem of providing for individual differences" (p. 11).

A second impressive and challenging finding of the study is the fact that, although many schools are using one or more of the provisions for individual differences, few schools are sufficiently satisfied with the present methods of applying the procedures to report that they are having unusual success with the plans. For example, special coaching of slow pupils is a procedure used in 59 per cent of the schools, but only 9 per cent report the use of this plan with estimated unusual success. Homogeneous or ability grouping is reported in use in 32 per cent of the schools but is used with estimated unusual success by only 8 per cent of them. Apparently, even those secondary schools that are making earnest efforts to adjust their organizations, curriculums, and procedures to the increasing variability of pupils are experiencing great difficulty in selecting the procedures which are feasible in local situations and in organizing and administering the selected devices in a satisfactory manner. What a challenge this finding must be to every person interested in secondary education!

It seems reasonable that secondary schools at present should be experiencing great difficulties in their efforts to provide for individual differences. The greatest need for providing for individual differences at the secondary level has come within comparatively recent years. By far the greatest need has arisen since 1928, during a time when enrolments have been rising and financial support has been falling. Then, too, most of the provisions for individual differences are recent additions to secondary-school practice, at least on any comprehensive scale. The monograph states that there was practically no literature on ability grouping before 1917 and no controlled experimental studies were carried on before 1923. Special classes have existed in the high schools studied for only 3.5 years on the average (4.5 years for classes for superior or gifted pupils and 3.3 years for classes for the very slow pupils). The median length of time that the Morrison plan has been in use in the schools studied is two years. The median years of use of the Dalton plan is likewise two years. Is it any wonder that high schools are not satisfied with their present practices? Although literature on most of these devices has existed for a much longer time, it requires time and experience and research to make the most desirable applications of theory. No doubt, the volume which is being reviewed will do much to stimulate thinking and research, so that, by the time another decade has elapsed, the present seeming chaos in provisions for individual differences in high schools will have assumed the semblance of order and intelligent direction. Those persons working in secondary schools will welcome the present volume, particularly its critical discussion of problems and issues and the large amount of space devoted to detailed descriptions of practices in individual schools. Part II, dealing with plans characterized by the unit assignment and giving specimen units and specimen unit assignments, will be welcomed particularly by those who are endeavor-

ing to use some form of the unit plan. The entire volume is of sufficient interest and challenge to command the attention of everyone interested in secondary education.

HENRY J. OTTO

NORTHWESTERN UNIVERSITY

A symposium on the problems of supervision.—Under a very timely caption the Department of Elementary School Principals of the Michigan Education Association present their sixth yearbook.¹ It is one of a series designed to study the major functions of the principalship. In the prefatory remarks the modest statement is made that the yearbook does not solve the problems of supervision but may, it is hoped, supply some help, particularly to those who participated in compiling the volume. The non-technical discussion of many classroom problems is also thought to be of value to classroom teachers.

This book was a co-operative project, but co-operation was not confined to the principals. Teachers and supervisors, as well as superintendents, psychologists, and others, contributed to the symposium and to the discussion. Particularly valuable is the statement that "unsound ideas did not slip by in the guise of sentimental co-operation" (p. 17).

The heart of the yearbook is a symposium discussing five problems from the list of twenty-five compiled and voted on by principals. The reviewer does not agree with the committee that returns from 30 per cent of the principals within the state are indicative of enthusiasm and interest. Furthermore, the list and the votes on it raise the question whether such supposedly democratic and co-operative procedure actually discovers all the truly fundamental problems. That this procedure discovers some of the fundamental difficulties is unquestionable, but it is wholly possible that an outside expert can point out additional basic problems of which not all active field workers are aware. In compiling the Third Yearbook of the Department of Supervisors and Directors of Instruction, the reviewer noted that, when asked to list the most important problems, several thousand teachers failed to list problems which were later shown by reliable objective data to be real and pressing. While the vote of the Michigan principals showed considerable discrimination in the selection of most important problems, the list as a whole is unorganized and fragmentary. The reviewer sincerely fears the perpetuation of an unorganized, so-called "practical" view of supervision. The large issues and the fundamental problems are obscured when listed co-ordinately with minor immediate problems. This criticism is, of course, merely the reviewer's opinion.

On turning to the body of the book, one finds vigorous writing, stimulating ideas, and a wholesome, forward-looking philosophy. The opening chapter, by Edith M. Bader, on "The Reconstruction of Supervision—A Challenge" is powerful, provocative, and splendidly organized. The immaturity of supervisory

¹ *Rethinking Supervision: A Co-operative Michigan Project*. Sixth Yearbook of the Department of Elementary School Principals of the Michigan Education Association. Lansing, Michigan: Michigan Education Association, 1933. Pp. 158.

function and organization is clearly and, in the main, accurately set forth. The maturity of theory which has long opposed this very immaturity of practice is not so well presented. The reviewer flatly disagrees with some of the antagonistic distinctions made between the philosophy stressing the social heritage and the philosophy stressing the child. This point, however, can be forgiven in view of Miss Bader's fine plea for a unified, co-operatively determined philosophy. The next two articles on the technique of co-operation and co-operative thinking by Nelle Haley and Lula A. Reed are so well written as to be very illuminating. The only minor criticism is that the discussions do not make unmistakably clear that the general techniques discussed are chiefly valuable with problems of opinion, policy, or philosophy. There are, by contrast, questions in which facts, in considerable number and of reasonable reliability, are more valuable than the exchange of opinion. Of course, even then co-operative procedures are more likely to beget belief in, and allegiance to, the facts.

Space prohibits detailed comment on the seventeen articles making up the symposium on the five most important problems. The three discussions of freedom in the classroom are so sound and so valuable that it is to be hoped they will achieve a much wider circulation than will be given the state yearbook. The discussion of promotion standards is sound and well written but not particularly stimulating. In the section on organizing supervision Wyla A. Waterman's discussion admirably supplements Miss Bader's in that it summarizes current theory, which has long advocated integration even though practice by field workers has been poorly integrated. Theory is by no means so immature as is practice.

The section on conserving health is notable for diversity of views, one or two flat contradictions between contributors appearing. The advice given by Dr. Sundwall is valuable to all who read it. There is a complete lack of reference to the considerable body of factual data on the problems involved. A study of those data would have reduced the difference of opinion and prevented some "sloppy" writing which appear in minor rôles in one or two of the articles.

The three discussions on the rating of teachers are among the best brief discussions to appear recently. Obviously, a longer discussion would have covered more ground, but, in pointing out fundamental considerations and in indicating what steps ought to be taken next, these chapters are very stimulating.

The final section of criticism and appraisal of the preceding material varies, as do the others. The analyses by a group of supervisors are most analytical and are somewhat more severe than the present reviewer would be. The final appraisal by S. A. Curtis makes a number of valuable critical comments and amplifies further the philosophy of the yearbook.

To summarize; there are minor inconsistencies; the philosophical point of view is overworked; the objective or so-called "scientific" point of view is somewhat neglected; there is reasonable doubt that all problems discussed are really important; but in the main the yearbook is genuinely stimulating and valuable. It will well repay reading.

W. H. BURTON

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An experimental investigation of factors conditioning problem-solving ability in arithmetic.—There are two phases of problem-solving that have been subjected to much investigation. First, experiments have been made to determine which is the best method to use to solve problems. The study by Paul R. Hanna (*Arithmetic Problem Solving*. New York: Teachers College, Columbia University, 1929) is representative of this type of research. Second, the factors which condition problem-solving ability have undergone much scrutiny. The study under review¹ is representative of the second type of investigation. The author aimed to show how such factors as reading ability, training in problem-analysis and generalization, chronological age, intelligence quotient, and sex affect a pupil's ability to solve problems.

On the whole, the results of the experiments reported by the author are in agreement with similar studies by other investigators. To the reviewer, the results obtained from the experiments are not so significant as the means applied to derive them. The results were obtained both from case studies and from group data. Apparatus and non-apparatus tests were also given. There is a dearth of scientific data taken from case studies of problem-solving. The case studies reported in this investigation add enrichment to this neglected field.

In most places in which results of the experiments are appraised, the author shows great skill in the use of the scientific method. The conclusions which he wishes to make are frequently given in the form of indirect questions; thus, he implies but does not specifically state that certain relations between cause and effect exist. However, in a few instances the conclusions drawn do not seem justified by the recorded data, or the suggested outcomes are not in harmony with desirable teaching procedures. He recommends that cues should be taught, but he then states: "The evidence throughout this report favors general training in problem-solving rather than practice in solving type problems. When problems are given, the language varies unless the problems are artificial. Relationships are given in many different language settings" (p. 132). This statement seems to contradict the findings of Osburn and Drennan ("Problem Solving in Arithmetic," *Educational Research Bulletin*, X [March 4, 1931], 123-28). They found it is better to teach a few cues well than to teach many different types. At another place Lazerte recommends: "Problem-solving and spelling should be taught together. Pupils must write solutions to many problems. They should be taught the correct spelling of all words occurring frequently in this written vocabulary" (p. 128). Most of the writing needed for problem-solving is used in labeling. It is debatable whether the labeling of numbers in the solution of problems is desirable. In the most recent revision of the arithmetic curriculum of Denver, it is recommended that only problems involving money should be labeled and that all others should be solved in the abstract form.

¹ M. E. Lazerte, *The Development of Problem-solving Ability in Arithmetic: A Summary of Investigations*. Toronto, Canada: Clarke, Irwin & Co., Ltd., 1933. Pp. xvii + 136. \$1.25.

Lazerte opens a field for investigation in which fruitful results may be realized. He refers to the part in problem-solving played by intuition: "Intuition seems to play an important rôle. . . . The pupils get their methods directly from experience, and they are unable to justify them" (pp. 45-46). It is interesting that the author should introduce the method of intuition as a scientific method when he has adopted the mechanistic conception of psychological thought throughout his study. Very probably intuition is a factor in the ability to solve problems, but it is difficult to secure objective data which show the influence of this factor.

It is significant to find that the author has evidence which shows the effects of maturation on ability in problem-solving. The analytical ability needed to solve problems "is something which comes with growth and age rather than with directed education" (p. 53). It is probably because of this factor that most experimental studies dealing with the best method for solving problems have found that the individual method is as effective as other methods or even superior to other methods.

The reviewer recommends this book to anyone who is interested in the scientific approach to problem-solving. The techniques used by the investigator are excellent. The book should find a place in the library of every institution which trains teachers of arithmetic.

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Needed reforms in the education and certification of elementary-school teachers.—One of the last contributions of the late Frank P. Bachman is a critical study of the education and the certification of elementary-school teachers.¹ Each section of the report is introduced by the presentation of carefully selected data which provide an illuminating picture of current practices, trends, and issues. The facts presented are analyzed and interpreted in terms of needed reforms both in the education and in the certification of teachers who secure four years of preparation. In view of the fact that most teacher-training institutions are now engaged in the more-or-less radical reorganization of their four-year curriculums for elementary-school teachers, the report is exceedingly timely. It is also challenging and constructive.

The report is divided into twelve chapters. Chapter i deals with the present status of elementary-school teaching and presents facts concerning the sex, salaries, age, preparation, experience, and migration of teachers. Chapter ii discusses present certification requirements, pointing out the urgent need for critical studies of the types of elementary-school teachers needed and the kinds of certificates that are essential. Chapter iii shows how local interests, the pro-

¹ Frank P. Bachman, *Education and Certification of Elementary Teachers*. Field Study No. 5. Nashville, Tennessee: Division of Surveys and Field Studies, George Peabody College for Teachers, 1933. Pp. x+226.

professional outlook of the students, the desire to have credits recognized, and other factors influence and modify the curriculums of many teachers' colleges. Chapters iv-vi analyze current practices with respect to the differentiation of curriculums, their length, and the instructional materials used and time allotments. Chapter vii classifies teachers' colleges into two types, the apprentice and the collegiate, and defines distinctive differences between these types. Chapters viii-ix consider at length the type of education needed by elementary-school teachers, including both "liberal-cultural" and "technical." Chapter x outlines proposed curriculums in terms of course titles and credit hours. Chapter xi discusses needed reforms in the certification of teachers. Chapter xii presents conclusions in terms of constructive steps which should be undertaken at once in efforts to provide well-educated teachers for elementary schools.

The report presents a large number of very constructive and challenging recommendations. For example, it is proposed that highly differentiated curriculums for elementary-school teachers be discontinued and that, with two minor exceptions, a single curriculum and certificate be adopted for all. This recommendation is ably supported on both practical and theoretical grounds. In the suggestion, however, that the work covered in the curriculum vary with the organization of elementary education in the various states, no consideration is given to the unique nature and function of the upper-grade, or junior high school, period.

A second important proposal is that the curriculum for prospective elementary-school teachers should be of the collegiate rather than of the apprentice type. This recommendation implies that teachers' colleges should educate teachers rather than merely train them for a job. If this recommendation is adopted and put into effective operation, we may look forward confidently to a generation of capable elementary-school teachers. If liberal-cultural education should be limited to the fields represented by the elementary-school subjects, as is proposed in the report, there is danger that the curriculum may be dictated too largely by narrow professional needs. The attempt to define the nature and the scope of both liberal and professional education in terms of course titles and credit hours probably has only limited value. The greatest need today in this connection is for definitions of attainment.

Bachman's report is without question the most helpful guide available today for those interested in developing curriculums for prospective elementary-school teachers. The author defines the major issues clearly and analyzes them critically. His recommendations are sound and constructive and pave the way for a period of well-directed effort in the reconstruction of curriculums for the training of elementary-school teachers.

WILLIAM S. GRAY

A manual for home-room advisers.—Educational thinkers have always contended that the school should interest itself in teaching children how to live efficiently and happily, as well as in giving them the content of the courses of study. In the last ten years this instruction in personal and social problems has

been consigned with increasing frequency to the home room. Systematic study of the educational value of this type of instruction and study of the methods of presenting it have added greatly to the importance of the home room in modern schools. Under these conditions the profession is prepared to welcome the appearance of a book on the home room¹ from the pen of an author whose contributions in the field of extra-curriculum activities have been both numerous and substantial. The book is primarily of the nature of a manual.

The first two of its twenty-four chapters are introductory in character and deal with the changing conception of education and the purposes of the home room. These are followed by three chapters on administration, organization, and membership. Chapters vi-x and xii are concerned with selecting, scheduling, presenting, and evaluating programs and other activities. In chapter xi the sponsor of the home room is treated. Nearly all the remainder of the book, including chapters xiii-xxiii (approximately a half of the entire volume), is given to describing different types of home-room guidance, such as orientation; educational planning; and vocational, moral, and ethical guidance; citizenship; health and recreation; guidance in personal relationships; manners and courtesy; and thrift. The final chapter warns sponsors against a number of common errors.

The book is filled with practical suggestions and with detailed descriptions of home-room practices in many progressive schools. The busy advisers of home rooms will find in it a mine of materials ready for use with such adaptations as local conditions require.

Unlike most educational books, it can be used by the pupils themselves. The chapters describing different types of programs and of guidance are the most helpful from this point of view. With the aid of references to specific pages and with general directions from the adviser, committees of pupils can successfully work up almost any kind of program that is desired.

PAUL W. TERRY

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A guide to the unit plan of teaching and studying American history.—The unit plan of organizing the teaching of history in the elementary and the secondary schools is becoming very popular in the minds and talk of teachers, but the surveys recently made indicate that very little of it is practiced. Teaching history as a chronological narrative is a trying experience for both pupil and teacher. The tradition of history-teaching demands the inclusion of so much detail that the narrative becomes cumbersome and confusing and the pupil quite properly thinks history a dry and uninteresting collection of dates and facts. This statement is particularly true of history as presented in most textbooks. A recent manual for the teaching of United States history on the unit plan² attempts to correct the defect.

¹ Harry C. McKown, *Home Room Guidance*. New York: McGraw-Hill Book Co., Inc., 1934. Pp. xxii+448. \$2.75.

² Robert B. Weaver and Howard C. Hill, *United States History by Units*. Chicago: W. F. Quarrie & Co., 1933. Pp. x+184.

The unit plan of organization is an attempt to select only those parts of the story "that have the greatest informative value as well as those of chief interest to the pupils, provided such items also have definite educative value" (p. 2). The authors quote E. T. Smith's definition of a unit: "A 'unit' is a comprehensive and significant aspect of some field of knowledge that, when mastered, proves an adaptive step in the adjustment of the individual" (p. 6). By a careful selection of unit material according to this principle, a much simpler presentation is afforded, and a more desirable perspective of historical values is secured.

This book consists of two parts: a teacher's book and a pupil's guide for the study of history in accordance with the unitary plan. The teacher's book is a clear and complete exposition of the unit plan and a description of the Morrison plan of teaching procedure as applied to a course in United States history. The detailed and graphic treatment of the unit, with much illustrative material, makes this section of the book an excellent handbook for the junior high school teacher.

Part Two is a study guide to be placed in the hands of the pupils and is bound separately for that purpose. It is "not a manual or workbook in the common sense of the term, nor is it a book of exercises. It is designed, rather, to provide a complete guide for the study of history in accordance with the unitary plan" (p. v). It is not intended to displace the textbook, although it may do so where the school is well equipped with reference books and other suitable supplementary materials.

The nine units are as follows: "How We Became Americans," "How England Gained Control of North America," "How America Became an Independent Nation," "How We Secured Our National Government," "How Our National Government Was Tested," "How Negro Slavery Was Destroyed," "How Americans Won the West," "How Big Business Has Developed in America," "How America Became a World Power." Each unit is developed according to the Morrison plan: a statement of the objective and the elements of study, exploration questions to reveal what the pupil already knows of the subject, a list of books and references, and the chief exercises to be performed in the study of the unit. A general classified bibliography is given, selected on the basis of "merit, cost, and extent of use throughout the country" (p. 61). No time limit is set for the completion of each unit, although fifteen to twenty-five days are ordinarily required. An excellent balance of time and values is preserved among the nine units.

Some observations occur to the reviewer. The book bears evidence of excellent proofreading. The exercises require a large amount of writing; Unit III, for example, has fifteen written exercises, ranging in length from a paragraph to a complete theme. There is no specific exercise in Unit VI to prepare the pupil for the problems in the corresponding test on relations with Europe during the Civil War period.

This manual and guide will be of great value in United States history classes

at the junior high school level. It will, of course, be of greater value in schools equipped with ample libraries. The authors have performed a real service in making available a guide which should encourage the use of the unit system.

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